

General Disclaimer

One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

Publications of the Jet Propulsion Laboratory 1981

(NASA-CR-169519) PUBLICATIONS OF THE JET
PROPULSION LABORATORY, 1981 (Jet Propulsion
Lab.) 39 p HC A03/MF A01 CSCL 05B

N83-14016

G3/82 Unclass
01195



September 15, 1982



National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

JPL BIBLIOGRAPHY 39-23

Publications of the Jet Propulsion Laboratory 1981

September 15, 1982



National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

This publication was prepared by the Jet Propulsion Laboratory, California Institute of Technology, under contract with the National Aeronautics and Space Administration.

Foreword

JPL Bibliography 39-23 describes and indexes by primary author the externally distributed technical reporting released during calendar year 1981, that resulted from scientific and engineering work performed, or managed, by the Jet Propulsion Laboratory. Three classes of publications are included:

- (1) JPL Publications (77-, 78-, 79-series, etc.), in which the information is complete for a specific accomplishment and can be tailored to wide or limited audiences and be presented in an established standard format or special format to meet unique requirements.
- (2) Articles published in the open literature.
- (3) Articles from the bimonthly *Deep Space Network (DSN) Progress Report* (42-series) and its successor, the *Telecommunications and Data Acquisition (TDA) Progress Report* (also 42-series). Each collection of articles in this class of publication beginning with 42-20 presents a periodical survey of current accomplishments by the Deep Space Network as well as other developments in Earth-based radio technology. Formerly, each collection of articles was published as a separate volume of Technical Report 32-1526.

Effective January 1977, the "JPL Publication" replaced the Technical Report, Technical Memorandum, and Special Publication. However, the discontinued classes may still appear in future issues of the Bibliography if succeeding volumes or revisions are published in their former series.

JPL personnel can obtain loan copies of external documents cited from the JPL Library. Personnel of outside organizations can obtain copies or information regarding availability of documents cited by addressing a written request to the Documentation and Material Division, Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, California 91109, or the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

Contents

JPL Publications	1
Progress Reports	9
Open Literature	21

PRECEDING PAGE BLANK NOT FILMED

JPL Publications

Akin, G.,
Psycho-Social Aspects of Productivity in Underground Coal Mining,
 JPL Publication 81-113, October 1, 1981.
 (Prepared for the U.S. Department of Energy.)

Anspaugh, B. E., R. G. Downing, T. F. Miyahira, and R. S. Weiss,
Characterization of Solar Cells for Space Applications, Volume XIV: Electrical Characteristics of Hughes Liquid Phase Epitaxy Gallium Arsenide Solar Cells as a Function of Intensity, Temperature, and Irradiation,
 JPL Publication 78-15, Vol. XIV, November 15, 1981.

Bankston, C. P., and L. H. Back,
Dish Stirling Solar Receiver Combustor Test Program,
 JPL Publication 81-23, August 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Barengoltz, J. B., S. L. Bergstrom, and G. L. Hobby, and P. D. Stabekis (Exotech Research and Analysis),
A Proposed New Policy for Planetary Protection,
 JPL Publication 81-90, September 15, 1981.

Barnett, R. M.,
A Preliminary Estimate of Future Communications Traffic for the Electric Power System,
 JPL Publication 81-41, October 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Berg, M., R. Levy, H. McGinness, and D. Strain,
Wind Speed Statistics for Goldstone, California, Anemometer Sites,
 JPL Publication 81-17, April 15, 1981.

Bickerton, C. R., and M. D. Westerfield,
A Moving Baseline for Evaluation of Advanced Coal Extraction Systems,
 JPL Publication 81-31, April 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Billingsley, F. C.,
Modeling Misregistration and Related Effects on Multispectral Classifications,
 JPL Publication 81-6, April 15, 1981.

Bjorklund, R. A., and R. O. Kushida,
Flashback Flame Arrester Devices for Fuel Cargo Tank Vapor Vents: Final Report,
 JPL Publication 81-10, March 1981.
 (Prepared for the U.S. Department of Transportation.)

Boreham, J. F., R. B. Postal, and R. A. Luntz,
Total Hip Joint Replacement Biotelemetry System,
 JPL Publication 80-98, May 1, 1981.

Bouquet, F.,
Cost/Performance of Solar Reflective Surfaces for Parabolic Dish Concentrators,
 JPL Publication 81-2, July 15, 1980.
 (Prepared for the U.S. Department of Energy.)

Bouquet, F. L.,
Status of JPL's Experience with Thin 7809 Glass for Solar Energy Applications, Report No. 1,
 JPL Publication 80-96, October 1, 1980.
 (Prepared for Solar Energy Research Institute.)

Bridgeforth, A. O.,
Automated Power Systems Management (APSM): Final Report,
 JPL Publication 81-106, November 15, 1981.

Bryant, J., K. Hardy, R. Livingston, and J. Sandberg,
Upgraded Demonstration Vehicle Task Report,
 JPL Publication 81-98, October 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Burger, D. R.,
Vacuum Lamination of Photovoltaic Modules,
 JPL Publication 81-118, January 15, 1982.
 (Prepared for the U.S. Department of Energy.)

Camilli, F. A., D. P. Maynard, A. Mangolds, and J. Harris,
Geologic Considerations in Underground Coal Mining System Design,
 JPL Publication 81-74, October 1, 1981.
 (Prepared for the U.S. Department of Energy.)

Carlson, C. R.,
The Sysgen User Package,
 JPL Publication 81-47, March 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Carruth, M. R.,
Experimental and Analytical Evaluation of Ion Thruster/Spacecraft Interactions,
 JPL Publication 80-92, January 15, 1981.

Caughey, T. K.,
Structural Dynamics Analyses Testing and Correlation,
 JPL Publication 81-72, May 1, 1982.

Chamberlain, R. G., and K. M. McMaster (Loyola Marymount University),
A Normative Price for Energy from an Electricity Generation System: An Owner-Dependent Methodology for Energy Generation (System) Assessment (OMEGA), Volume I: Summary,
 JPL Publication 81-86, Vol. I, October 15, 1981.
 (Prepared for the U.S. Department of Energy.)

Chamberlain, R. G., and K. M. McMaster (Loyola Marymount University),
A Normative Price for Energy from an Electricity Generation System: An Owner-Dependent Methodology for Energy Generation (System) Assessment (OMEGA), Volume II: Derivation of System Energy Price Equations,
JPL Publication 81-86, Vol. II, October 15, 1981.
(Prepared for the U.S. Department of Energy.)

Clare, L.,
Queueing Analysis of Synchronous Time Division Multiplexing with Individual Source Buffering,
JPL Publication 81-107, February 1, 1982.

Clayton, R. M., and D. H. Lewis,
Two-Stage Combustion for Reducing Pollutant Emissions From Gas Turbine Combustors,
JPL Publication 80-63, February 1, 1981.

Daud, T., and L. J. Cheng,
Measurement of Surface Recombination Velocity for Silicon Solar Cells Using a Scanning Electron Microscope With Pulsed Beam,
JPL Publication 81-64, November 1, 1981.
(Prepared for the U.S. Department of Energy.)

DeMore, W. B.,
Chemical Kinetic and Photochemical Data for Use in Stratospheric Modelling, Evaluation Number 4: NASA Panel for Data Evaluation,
JPL Publication 81-3, January 15, 1981.

Di Cenzo, A.,
Synthetic Aperture Radar and Digital Processing: An Introduction,
JPL Publication 80-90, February 15, 1981.

Dowdy, M. W.,
Conventional Engine Technology, Volume I: Status of OTTO Cycle Engine Technology,
JPL Publication 81-65, Vol. I, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Dowdy, M. W.,
Conventional Engine Technology, Volume III: Comparisons and Future Potential,
JPL Publication 81-65, Vol. III, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Dutzi, E. J., P. J. Sullivan, C. F. Hutchinson, and C. M. Stevens,
The Environmental Assessment of a Contemporary Coal Mining System,
JPL Publication 80-99, December 15, 1980.
(Prepared for the U.S. Department of Energy.)

Edmunds, R. S.,
Control System Design for the Large Space Systems Technology

Reference Platform,
JPL Publication 81-77, January 15, 1982.

Elliott, D. G.,
Theory and Tests of Two-Phase Turbines,
JPL Publication 81-105, March 15, 1982.
(Prepared for the U.S. Department of Energy.)

Estey, R. S., and C. H. Seaman,
Four Absolute Cavity Radiometer (Pyrehellometer) Intercomparisons at New River, Arizona,
JPL Publication 81-60, July 1981.
(Prepared for the U.S. Department of Energy.)

Fleigel, H.,
Session III of the VLBI/Laser Intercomparison Task of the NASA Crustal Dynamics Project,
JPL Publication 81-96, November 1, 1981.

Flock, W. L.,
Telecommunications in Cometary Environments,
JPL Publication 81-84, July 1, 1981.^s

Fontenot, L. L.,
Slosh Dynamics of a Spin-Stabilized Spacecraft Comprising Off-Axis Tanks Filled Partially with Liquid Propellant,
JPL Publication 80-97, February 15, 1981.

Frickland, P., E. Cleland, and T. Hasegawa,
Evaluation of the Effects of a Freeze/Thaw Environment on Cellular Glass,
JPL Publication 81-29, August 15, 1981.
(Prepared for the U.S. Department of Energy.)

Fu, L., and B. Holt,
Seasat Views Oceans and Sea Ice with Synthetic-Aperture Radar,
JPL Publication 81-120, February 15, 1982.

Fujimoto, B.,
User Requirements for NASA Data Base Management Systems, Part One: Oceanographic Discipline,
JPL Publication 81-50, June 15, 1981.

Gagliardi, R. M., V. A. Vilnrotter, and S. J. Dolinar,
Optical Deep Space Communication via Relay Satellite,
JPL Publication 81-40, August 15, 1981.

Gangal, M. D., and M. L. Lavin,
Requirements for the Conceptual Design of Advanced Underground Coal Extraction Systems,
JPL Publication 81-70, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Gennery, D., R. Cunningham, E. Sand, J. High, and C. Ruoff,
Computer Vision,
JPL Publication 81-92, November 1, 1981.

Giandomenico, A.,
1-kW Solar Stirling Experiments: Final Report,
JPL Publication 81-38, May 15, 1981.

Goddard Space Flight Center,
Modern Observational Techniques for Comets: Proceedings of a Workshop Held at Goddard Space Flight Center, Greenbelt, Maryland, on October 22-24, 1980,
JPL Publication 81-68, October 1, 1981.

Habib-agahi, H., and S. C. Jones,
Irrigation Market for Solar Thermal Parabolic Dish Systems,
JPL Publication 81-85, September 1, 1981.
(Prepared for the U.S. Department of Energy.)

Harstad, K.,
Electrode Processes in MPD Thrusters,
JPL Publication 81-114, March 1, 1982.

Hassan, M., and J. Klein,
Distributed Photovoltaic Systems: Utility Interface Issues and Their Present Status,
JPL Publication 81-89, September 15, 1981.
(Prepared for the U.S. Department of Energy.)

Heft, R. C.,
Potential Impacts of Brayton and Stirling Cycle Engines,
JPL Publication 81-22, November 15, 1980.
(Prepared for the U.S. Department of Energy.)

Hoehn, F. W.,
Controlled Speed Accessory Drive Demonstration Program,
JPL Publication 81-83, October 15, 1981.
(Prepared for the U.S. Department of Energy.)

Horstein, M., and R. Barnett,
Satellite Applications to Electric-Utility Communications Needs,
JPL Publication 81-104, December 1, 1981.

Jaffe, L. D.,
Dish Concentrators for Solar Thermal Energy: Status and Technology Development,
JPL Publication 81-43, January 1, 1982.
(Prepared for the U.S. Department of Energy.)

Jaffe, L. D., and P. T. Poon,
Secondary and Compound Concentrators for Parabolic Dish Solar Thermal Power Systems,
JPL Publication 81-27, April 15, 1981.
(Prepared for the U.S. Department of Energy.)

Jaffe, P.,
LSA Field Test Annual Report: August 1979–August 1980,
JPL Publication 81-12, December 30, 1980.
(Prepared for the U.S. Department of Energy.)

Jaffe, P., R. W. Weaver, and R. E. Lee,
FSA Field Test Annual Report August 1980–August 1981,
JPL Publication 81-99, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Annual Technical Report: Fiscal Year 1980,
JPL Publication 81-39, May 15, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Parabolic Dish Solar Thermal Power Annual Program Review Proceedings,
JPL Publication 81-44, May 1, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Photovoltaics Program Utility Interface Southwest Regional Workshop Proceedings, September 9-10, 1980,
JPL Publication 81-32, April 1, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Proceedings—Conference on the Computing Environment for Mathematical Software,
JPL Publication 81-67, July 15, 1981.

Jet Propulsion Laboratory,
Proceedings of the Seventeenth Annual Conference on Manual Control, University of California, Los Angeles, California, June 16–18, 1981,
JPL Publication 81-95, October 15, 1981.
(Prepared for the Office of Naval Research.)

Jet Propulsion Laboratory,
Progress Report 16 for the Period April to September 1980 and Proceedings of the 16th Integration Meeting,
JPL Publication 80-100, 1980.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Progress Report 17 for the Period September 1980 to February 1981 and Proceedings of the 17th Project Integration Meeting,
JPL Publication 81-35, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Progress Report 18 for the Period February to July 1981 and Proceedings of the 18th Project Integration Meeting,
JPL Publication 81-94, 1981.
(Prepared for the U.S. Department of Energy.)

Jet Propulsion Laboratory,
Seasat-JASIN Workshop Report, Volume I: Findings and Conclusions,
JPL Publication 80-62, Vol. I, December 1980.

Kahle, A. B., J. P. Scheldge, M. J. Abrams, R. E. Alex, and C. J. LeVine,
Geologic Application of Thermal Inertia Imaging Using HCMM Data,
JPL Publication 81-55, September 15, 1981.

Kalfayan, S. M.,
Heat Sterilizable Solid-Propellant Development,
JPL Publication 81-21, April 15, 1981.

Kalvinskas, J., N. Rohatgi, and J. Ernest,
Final Report: Coal Desulfurization by Low Temperature Chlorinolysis, Phase III,
JPL Publication 81-82, March 1, 1981.
(Prepared for the U.S. Department of Energy.)

Kendall, J. M.,
Radiometer for Accurate ($\pm 1\%$) Measurement of Solar Irradiances Equal to 10,000 Solar Constants,
JPL Publication 81-42, July 1, 1981.

Kirkham, H., T. Koerner, and D. Nightingale,
Concepts for Design of an Energy Management System Incorporating Dispersed Storage and Generation,
JPL Publication 81-20, April 15, 1981.
(Prepared for the U.S. Department of Energy.)

Kurtz, D. W.,
The DOE ETV-1 Electric Test Vehicle: Phase III Final Report, Performance Testing and System Evaluation,
JPL Publication 81-93, December 1981.
(Prepared for the U.S. Department of Energy.)

Kushida, R., V. D. Sankur, F. G. Gerbracht, and Y. Mahajan,
Coal Pump Development: Phase III Final Report, October 1979 to June 1980,
JPL Publication 81-13, July 1980.
(Prepared for the U.S. Department of Energy.)

Lavin, M. L., and L. Isenberg,
Report of Activities of the Advanced Coal Extraction Systems Definition Project for the Period 1979-1980,
JPL Publication 81-69, August 1, 1981.
(Prepared for the U.S. Department of Energy.)

Liddle, S. G., B. B. Bonzo, G. P. Purohit, and J. A. Stallkamp,
Future Fuels and Engines for Railroad Locomotives, Volume II: Technical Document,
JPL Publication 81-101, Vol II, November 1, 1981.
(Prepared for the U.S. Department of Energy.)

Liddle, S. G., G. P. Purohit, J. A. Stallkamp, and B. B. Bonzo,
Future Fuels and Engines for Railroad Locomotives, Volume I: Summary,

JPL Publication 81-101, Vol. I, November 1, 1981.
(Prepared for the U.S. Department of Energy.)

Lin, E. I.,
A Review of the Salt-Gradient Solar Pond Technology,
JPL Publication 81-116, January 30, 1982.
(Prepared for the U.S. Department of Energy.)

Liu, K. Y.,
Architecture for VLSI Design of Reed-Solomon Encoders,
JPL Publication 81-87, June 8, 1981.

Lu, K. Y.,
The Effects of Receiver Tracking Phase Error on the Performance of the Concatenated Reed-Solomon/Viterbi Channel Coding System,
JPL Publication 81-62, September 1, 1981.

Liu, K. Y., and J. J. Lee,
An Experimental Study of the Concatenated Reed-Solomon/Viterbi Channel Coding System Performance and Its Impact on Space Communications,
JPL Publication 81-58, August 15, 1981.

Lorre, J. J.,
Application of Digital Image Processing Techniques to Astronomical Imagery 1980,
JPL Publication 81-8, May 1, 1981.

Manvi, R.,
Regional Characteristics Relevant to Advanced Technology Cogeneration Development,
JPL Publication 81-61, July 1981.
(Prepared for the U.S. Department of Energy.)

Marks, R. A., P. Cassell, and A. R. Johnston,
Automated Mixed Traffic Transit Vehicle Microprocessor Controller, Final Report,
JPL Publication 81-24, February 10, 1981.
(Prepared for the U.S. Department of Transportation.)

Marshall, M. H., and G. E. Low,
Final Report of the Autonomous Spacecraft Maintenance Study Group,
JPL Publication 80-88, February 1, 1981.
(Prepared for the Air Force Office of Scientific Research.)

Maynard, D. P.
Critical Parameters for Coarse Coal Underground Slurry Haulage Systems,
JPL Publication 81-11, February 15, 1981.
(Prepared for the U.S. Department of Energy.)

McCarthy, J., J. Ferrall, T. Charng, and J. Houseman,
Assessment of Advanced Coal Gasification Processes,
JPL Publication 81-45, June 1981.
(Prepared for the U.S. Department of Energy.)

Miller, R. L., L. J. Deutsch, and S. A. Butman,
On the Error Statistics of Viterbi Decoding and the Performance of Concatenated Codes,
JPL Publication 81-9, September 1, 1981.

Mokashi, A. R.,
Sensitivity Analysis of the Add-On Price Estimate for the Silicon Web Growth Process,
JPL Publication 81-112, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Mokashi, A. R., and A. H. Kachare,
Sensitivity Analysis of the Add-On Price Estimate for the Edge-Defined Film-Fed Growth Process,
JPL Publication 81-37, March 15, 1981.
(Prepared for the U.S. Department of Energy.)

Man, G. R., D. M. Moore, and R. G. Ross,
Interconnect Fatigue Design for Terrestrial Photovoltaic Modules,
JPL Publication 81-111, March 1, 1982.
(Prepared for the U.S. Department of Energy.)

Omura, J. K., and M. K. Simon,
Modulation/Demodulation Techniques for Satellite Communications, Part I: Background,
JPL Publication 81-73, Part I, November 15, 1981.

Omura, J. K., and M. K. Simon,
Modulation/Demodulation Techniques for Satellite Communications, Part II: Advanced Techniques—The Linear Channel,
JPL Publication 81-73, Part II, March 1, 1982.

Omura, J. K., and M. K. Simon,
Modulation/Demodulation Techniques for Satellite Communications, Part IV: Appendices,
JPL Publication 81-73, Part IV, November 1, 1981.

Orren, L. H., G. M. Ziman, and S. C. Jones,
The Geothermal Probabilistic Cost Model with an Application to a Geothermal Reservoir at Heber, California,
JPL Publication 81-117, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Peelgren, M. L.,
Salton Sea Project, Phase I: Final Report,
JPL Publication 81-108, January 15, 1982.
(Prepared for the U.S. Department of Energy.)

Poynter, R. L., and H. M. Pickett,
Submillimeter, Millimeter, and Microwave Spectral Line Catalogue,
JPL Publication 80-23, Rev. 1, June 1, 1981.

Prentice, A. J.,
Voyager and the Origin of the Solar System,
JPL Publication 81-79, August 15, 1981.

Price, T. W., V. A. Wirth, and M. F. Pompa,
Vehicle Test Report: Electric Vehicle Associates Electric Conversion of an AMC Pacer,
JPL Publication 81-97, October 15, 1981.
(Prepared for the U.S. Department of Energy.)

Price, T. W., T. W. Shain, and J. A. Bryant,
Vehicle Test Report: South Coast Technology Electric Conversion of a Volkswagen Rabbit,
JPL Publication 81-28, February 15, 1981.
(Prepared for the U.S. Department of Energy.)

Price, W. E., K. E. Martin, D. K. Nichols, M. K. Gauthier, and S. F. Brown,
Total-Dose Radiation Effects Data for Semiconductor Devices: Volume I,
JPL Publication 81-66, Vol. I, August 1, 1981.

Price, W. E., K. E. Martin, D. K. Nichols, M. K. Gauthier, and S. F. Brown,
Total-Dose Radiation Effects Data for Semiconductor Devices: Volume II,
JPL Publication 81-66, Vol. II, December 1, 1981.

Renzetti, N. A., and A. L. Berman,
The Deep Space Network—An Instrument for Radio Science Research,
JPL Publication 80-93, February 15, 1981.

Rosenberg, L. S., and W. R. Revere,
A Comparative Assessment of Solar Thermal Electric Power Plants in the 1-10 MWe Range,
JPL Publication 81-53, June 1981.
(Prepared for the U.S. Department of Energy.)

Rowlette, J. J.,
Electric and Hybrid Vehicles Charge Efficiency Tests of ESB EV-106 Lead-Acid Batteries,
JPL Publication 80-94, January 15, 1981.
(Prepared for the U.S. Department of Energy.)

Rubenstein, L. D., J. E. Land, G. Deshpande, and B. Harrow,
Overview of Rail Transit Fare Collection,
JPL Publication 80-89, August 1, 1980.
(Prepared for the U.S. Department of Transportation.)

Rubenstein, L. D., J. E. Land, G. Deshpande, B. Dayman, and E. H. Warren,
Methodology for Urban Rail and Construction Technology Research and Development Planning,
JPL Publication 80-83, August 1, 1980.
(Prepared for the U.S. Department of Transportation.)

Sarohia, V., L. Bernal, and T. Bul,
Entrainment and Thrust Augmentation in Pulsatile Ejector Flows,

JPL Publication 81-36, August 15, 1981.
(Prepared for the Naval Air Systems Command.)

Sarohia, V., L. Bernal, and R. B. Beauchamp,
Experimental and Analytical Investigation of a Fluidic Power Generator,

JPL Publication 81-100, November 15, 1981.
(Prepared for the Harry Diamond Laboratories, U.S. Department of the Army.)

Schaechter, D. B.,
Distributed Control of Large Space Structures,
JPL Publication 81-15, May 1, 1981.

Schneider, H. W.,
Conventional Engine Technology, Volume II: Status of Diesel Engine Technology,
JPL Publication 81-65, Vol. II, December 15, 1981.
(Prepared for the U.S. Department of Energy.)

Scott-Monck, J., P. Stella, and P. Berman,
Space Applicable DOE Photovoltaic Technology—An Update,
JPL Publication 81-91, November 15, 1981.

Seaman, C. H.,
The Correction for Spectral Mismatch Effects on the Calibration of a Solar Cell When Using a Solar Simulator,
JPL Publication 81-1, January 15, 1981.
(Prepared for the U.S. Department of Energy.)

Seaman, C. H., and R. S. Weiss,
Results of the 1980 NASA/JPL Balloon Flight Solar Cell Calibration Program,
JPL Publication 81-18, March 15, 1981.

Seaman, C. H., and R. S. Weiss,
Results of the 1981 NASA/JPL Balloon Flight Solar Cell Calibration Program,
JPL Publication 81-115, January 15, 1982.

Simmonds, J. J.,
Four-Band Differential Radiometer for Monitoring LNG Vapors,
JPL Publication 81-56, June 26, 1981.
(Prepared for the U.S. Department of Transportation.)

Slobin, S. D.,
Microwave Noise Temperature and Attenuation of Clouds at Frequencies Below 50 GHz,
JPL Publication 81-46, July 1, 1981.

Smith, E. K., and J. W. Waters,
Microwave Attenuation and Brightness Temperature Due to the Gaseous Atmosphere,
JPL Publication 81-81, August 15, 1981.

Smith, J. L.,
Photovoltaics as a Terrestrial Energy Source: Volume I, An

Introduction,
JPL Publication 81-103, Vol. I, October 1980.
(Prepared for the U.S. Department of Energy.)

Smith, J. L.,
Photovoltaics as a Terrestrial Energy Source: Volume II, System Value,
JPL Publication 81-103, Vol. II, October 1980.
(Prepared for the U.S. Department of Energy.)

Smith, J. L.,
Photovoltaics as a Terrestrial Energy Source: Volume III, An Overview,
JPL Publication 81-103, Vol. III, October 1980.
(Prepared for the U.S. Department of Energy.)

Stewart, R., and C. Wunsch,
Satellite Altimetric Measurements of the Ocean: Reports of the TOPEX Science Working Group,
JPL Publication 81-4, March 1, 1981.

Sue, M. K.,
Radio Frequency Interference at the Geostationary Orbit: Final Report,
JPL Publication 81-34, June 15, 1981.

Tausworthe, R. C.,
Deep Space Network Software Cost Estimation Model,
JPL Publication 81-7, April 15, 1981.

Thomas, J. B.,
An Analysis of Source Structure Effects in Radio Interferometry Measurements,
JPL Publication 80-84, December 15, 1980.

Thomas, J. B.,
An Analysis of Radio Interferometry with the Block O System,
JPL Publication 81-49, December 15, 1981.

Udwadia, F. E. (University of Southern California), and C. P. Kuo,
Nonparametric Identification of a Class of Nonlinear Close-Coupled Dynamic Systems,
JPL Publication 81-48, October 1, 1981.

Urena, J. L.,
Data Base Management Systems Panel: Third Workshop Summary,
JPL Publication 81-52, July 15, 1981.

Urena, J. L.,
Survey of Standards Applicable to a Database Management System,
JPL Publication 81-88, October 15, 1981.

Von Roos, O.,
Radiative Transfer in Cometary Dust Atmospheres: Critique of

Recent Developments,
JPL Publication 81-80, October 1, 1981.

Weaver, R.,
Systems Test Facilities Existing Capabilities Compilation,
JPL Publication 81-14, August 1, 1981.
(Prepared for the U.S. Department of Energy.)

Weeks, C. J.,
Shape Determination and Control for Large Space Structures,
JPL Publication 81-71, October 1, 1981.

Weiss, M. F., R. A. Hall, and S. D. Mazor,
Evaluation of the Micro-Carburetor,
JPL Publication 81-75, August 1981.
(Prepared for the U.S. Department of Energy.)

Wilson, A. H.,
Low-Cost Solar Array Structure Development,
JPL Publication 81-30, June 15, 1981.
(Prepared for the U.S. Department of Energy.)

Wolf, M. B.,
Viking Lander Camera Geometry Calibration Report,
Volume I: Test Methods and Data Reduction Techniques,
JPL Publication 79-54, Vol. I, April 15, 1981.

Wu, C., B. Barken, B. Huneycutt, C. Leang, and S. Pang,
An Introduction to the Interim Digital SAR Processor and the
Characteristics of the Associated Seasat SAR Imagery,
JPL Publication 81-26, April 1, 1981.

Yamakawa, K. A.,
The Effects of Impurities on the Performance of Silicon Solar
Cells,
JPL Publication 81-76, September 1, 1981.
(Prepared for the U.S. Department of Energy.)

Yan, T. Y.,
On the Power Spectral Density of Quadrature Modulated
Signals,
JPL Publication 80-95, January 15, 1981.

Yeh, C. (University of California, Los Angeles), R. Woo,
A. Ishimaru (University of Washington), and
J. W. Armstrong,
Scattering of Pruppacher-Plitter Raindrops at 30 GHz,
JPL Publication 81-63, August 1, 1981.

Yeh, Y. M.,
High-Efficiency Thin-Film GaAs Solar Cells, Phase II: Final
Report,
JPL Publication 81-33, March 15, 1981.
(Prepared for the U.S. Department of Energy.)

Zepko, T. M.,
Software Design and Documentation Language: User's Guide
for SDDL Release 4,
JPL Publication 77-24, Addend 1, September 15, 1981.

Zimmerman, W. F.,
Safety Evaluation Methodology for Advanced Coal Extraction
Systems,
JPL Publication 81-54, July 15, 1981.
(Prepared for the U.S. Department of Energy.)

Zimmerman, W. F., and G. K. Deshpande,
Escalator Design Features Evaluation: Final Report,
JPL Publication 81-78, July 1, 1981.
(Prepared for the U.S. Department of Transportation.)

Zwissler, J. G., and M. A. Adams,
Fracture Mechanics of Cellular Glass,
JPL Publication 81-16, February 1, 1981.
(Prepared for the U.S. Department of Energy.)

Progress Reports

Ablichandani, K. P., and J. E. Ohlson (Stanford Telecommunications Inc.),
 "Boresighting Techniques for the Antenna Control Assembly (ACA)," *The Telecommunications and Data Acquisition Progress Report 42-64: May and June 1981*, pp. 116-122, August 15, 1981.

Bartok, C. D.,
 "Performance of the Real-Time Array Signal Combiner During the Voyager Mission," *The Telecommunications and Data Acquisition Progress Report 42-63: March and April 1981*, pp. 191-202, June 15, 1981.

Baugh, H W., and A. I. Zygielbaum,
 "Improving the Computer-Human Interface: The Qualitative Monitor Display," *The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981*, pp. 66-69, February 15, 1982.

Bautista, J. J., and S. M. Petty,
 "Cryogenic Filters for RFI Protection," *The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981*, pp. 94-98, October 15, 1981.

Berman, A. L., and R. D. Shaffer,
 "A Dedicated 26-m SETI Sky Survey Instrument Facility: A Feasibility Study," *The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981*, pp. 4-8, October 15, 1981.

Berman, A. L., and R. B. Crow,
 "The SETI Program Plan and Instrument Development Status," *The Telecommunications and Data Acquisition Progress Report 42-64: May and June 1981*, pp. 3-9, August 15, 1981.

Berman, A. L., C. T. Stelzried, B. L. Seidel, J. C. Nash, and R. E. Nevarez,
 "Helios Mission Support," *The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981*, pp. 18-23, February 15, 1982.

Beutler, K. F.,
 "Relocation of the Deep Space Network Maintenance Center," *The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981*, pp. 180-181, October 15, 1981.

Blain, J. R.,
 "Goldstone STDN 9-Meter Radiation Test," *The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981*, pp. 341-351, December 15, 1981.

Brockman, M H.,
 "The Effect of Partial Coherence in Receiving Noise Temperature on Array Gain for Telemetry and Radio Frequency Carrier Reception for Similar Receiving Systems," *The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981*, pp. 219-235, December 15, 1981.

Brunder, G. J.,
 "Conversion of the DSN Teletype Subsystem to the Eight-Level ASCII National Standard," *The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980*, pp. 95-102, February 15, 1981.

Buckles, B. J.,
 "The DSN Radio Science System," *The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980*, pp. 89-94, February 15, 1981.

Buckles, B. J.,
 "The DSN Radio Science System Mark III - 1980," *The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981*, pp. 6-12, February 15, 1982.

Burke, E. S.,
 "A Summary of Space Flight Missions Supported by the Deep Space Network," *The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981*, pp. 13-17, February 15, 1982.

Burt, R.,
 "Mark IV-A DSCC Telemetry System Description," *The Telecommunications and Data Acquisition Progress Report 42-63: March and April 1981*, pp. 3-7, June 15, 1981.

Butcher, L., T. Jonas, and W. Wood,
 "Maintenance and Operations Tasks Accomplished at DSS '2 During the Antenna Panel Replacement Downtime," *The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981*, pp. 127-128, February 15, 1982.

Butman, S., R. Lipes, A. Rubin, and T. K. Truong,
"Digital SAR Processing Using a Fast Polynomial Transform,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981.
pp. 104-112, October 15, 1981.

Butman, S. A., L. J. Deutsch, and R. L. Miller,
"Performance of Concatenated Codes for Deep Space Missions,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 33-39, June 15, 1981.

Butman, S. A., L. J. Deutsch, R. G. Lipes, and R. L. Miller,
"Sideband-Aided Receiver Arraying,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 39-53, February 15, 1982.

Cain, D. L., and P. E. Beyer,
"Radio Frequency Interference by Earth Orbiting Satellites: Deep Space Interference Prediction Program,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 211-213, December 15, 1981.

Cha, A.,
"Design of a 1.5-m, 32-GHz, Clear Aperture Antenna,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 87-93, December 15, 1981.

Charey, W. D.,
"The DSN VLBI System Mark IV-85,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 61-76, August 15, 1981.

Chang, T.,
"Optimum Equipment Maintenance/Replacement Policy, Part 1: Dynamic Programming Approach,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 236-245, December 15, 1981.

Chang, T.,
"Optimum Equipment Maintenance/Replacement Policy, Part 2: Markov Decision Approach,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 75-89, February 15, 1982.

Chang, T.,
"System Reliability Analysis with Dynamic Programming,"
The Telecommunications and Data Acquisition Progress Report

42-66: September and October 1981,
pp. 246-267, December 15, 1981.

Chen, W. C., and R. Hartop,
"Improved Cooling Design for High Power Waveguide System,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 104-107, June 15, 1981.

Chester, T. J., and S. A. Butman,
"Navigation Using X-Ray Pulsars,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 22-25, June 15, 1981.

Clements, P. A.,
"A Frequency and Timing Subsystem for the ORION Mobile Unit,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 3-9, April 15, 1981.

Clements, P. A.,
"Global Positioning System Timing Receivers in the DSN,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 90-99, February 15, 1982.

Cooper, H.,
"DSS 13 Unattended Operations Station Controller Status Report,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 133-137, December 15, 1981.

Coyle, C. W.,
"Posterior Error Probability in the Mu-11 Sequential Ranging System,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 15-21, April 15, 1981.

Crow, B.,
"SETI Downconverter,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 1-5, February 15, 1982.

Curtright, J. B.,
"DSN Frequency and Timing System Mark III-81,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 41-52, August 15, 1981.

De Groot, N. F., and H. R. Bahadori,
"Historical Data on Characteristics of Radio Systems Used for United States Deep-Space Communications,"

The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1980,
pp. 7-16, February 15, 1981.

Deutsch, L. J., and R. L. Miller,
"Burst Statistics of Viterbi Decoding,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 187-193, August 15, 1981.

Deutsch, L. J., R. L. Miller, and S. A. Butman,
"New Results on Antenna Arraying: Part I,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 105-111, April 15, 1981.

Deutsch, L. J., R. G. Lipes, and R. L. Miller,
"Virtual Center Arraying,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 47-52, October 15, 1981.

Divsalar, D., and J. H. Yuen,
"Improved Carrier Tracking Performance with Coupled
Phase-Locked Loops,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 148-171, December 15, 1981.

Divsalar, D., D. Hansen, and J. H. Yuen,
"The Effect of Noisy Carrier Reference on Telemetry with
Baseband Arraying,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 128-135, June 15, 1981.

Durham, R.,
"DSN Scheduling System,"
The Telecommunications and Data Acquisition Progress
Report 42-62: January and February 1981,
pp. 132-141, April 15, 1981.

Ellis, J.,
"Tracking and Data Relay Satellite System (TDRSS)
Navigation with DSN Radio Metric Data,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 83-89, August 15, 1981.

Endsley, E. F.,
"Master Timing System Measurements,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 70-74, February 15, 1982.

Evans, R. H.,
"DSN Ground Communications Facility,"
The Telecommunications and Data Acquisition Progress Report

42-65: July and August 1981,
pp. 9-18, October 15, 1981.

Fanelli, N., and H. Nance,
"Voyager Mission Support,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 77-79, August 15, 1981.

Fanelli, N., and H. Nance,
"Voyager Mission Support,"
The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1980,
pp. 22-26, February 15, 1981.

Fanelli, N., and H. Nance,
"Voyager Mission Support,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 19-21, June 15, 1981.

Fanelli, N., and H. Nance,
"Voyager Mission Support (I),"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 24-26, December 15, 1981.

Fanelli, N., and H. Nance,
"Voyager Mission Support (II),"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 27-29, December 15, 1981.

Flock, W. L.,
"Effects of the Gaseous and Liquid Water Content of the
Atmosphere on Range Delay and Doppler Frequency,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 71-86, June 15, 1981.

Franco, M. M., S. D. Slobin, and C. T. Stelzried,
"20.7- and 31.4-GHz Solar Disk Temperature
Measurements,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 140-160, August 15, 1981.

Franco, M. M., S. D. Slobin, and C. T. Stelzried,
"X-Band Narrow-Beam Radiometer for DSS 13,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 80-86, December 15, 1981.

Gannon, D. L.,
"Project ORION Microwave Subsystem Design,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 10-17, August 15, 1981.

Gatz, E. C.,
"Networks Consolidation Program System Design,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 150-153, June 15, 1981.

Gaudian, B. A., and R. B. Cushman (Mendix Field Engineering Corporation),
"Goldstone High Power Radiation Control,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 197-204, October 15, 1981.

Glazer, S., and G. Gale,
"Thermal Measurement Technique of Rib Elements on DSN Antenna Structure,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 67-79, December 15, 1981.

Goodwin, J. P.,
"Networks Consolidation Program: Maintenance and Operations (M&O) Staffing Estimates,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 169-174, October 15, 1981.

Gould, G. D.,
"NOCA Upgrade,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 175-179, October 15, 1981.

Greenhall, C. A.,
"An Error Budget for the JPL Hydrogen Maser Receiver,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 118-126, October 15, 1981.

Greenhall, C. A.,
"On Counters Used for Node Synchronization,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 173-179, August 15, 1981.

Greenhall, C. A.,
"Removal of Drift From Frequency Stability Measurements,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 127-132, October 15, 1981.

Gregg, M. A.,
"High-Power Transmitter Automation - Part II,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 114-117, June 15, 1981.

Gular, C. N., and D. Schonfeld,
"Energy Consumption for the Echo Station (DSS 12),"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 355-363, December 15, 1981.

Gunn, J. M.,
"TIGER Reliability Analysis in the DSN,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 112-120, February 15, 1982.

Heller, J.,
"An Evaluation of the INTEL 2920 Digital Signal Processing Integrated Circuit,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 108-113, June 15, 1981.

Heller, J. W.,
"A Digital Filter Implementation of the Deep Space Transponder Phase Lock Loop Integrator,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 138-147, December 15, 1981.

Howard, L.,
"On the Correction for Quantization Effects in Signal-to-Noise Ratio Estimation,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 147-149, June 15, 1981.

Hughes, R. D.,
"A Computerized Life-Cycle Cost Methodology for Engineering Analysis,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 268-287, December 15, 1981.

Hughes, R. D., and S. T. Boyd,
"Reporting Capabilities and Management of the DSN Energy Data Base,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 147-153, April 15, 1981.

Hurt, R. P.,
"Relocation of the Network Data Processing Area,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 235-238, August 15, 1981.

Jackson, E. B.,
"Special Activity Utilization of ODSCC Antennas During 1981,"
The Telecommunications and Data Acquisition Progress Report

42-67: November and December 1981,
pp. 121-126, February 15, 1982.

Jackson, E. B., and J. W. Hudson,
"Special Activity Utilization of GDSCC Antennas During
1980,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 192-196, October 15, 1981.

Johnson, D. L.,
"Magnetic Refrigeration for Maser Amplifier Cooling,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 29-38, February 15, 1982.

Johnston, D. W.,
"Radio Frequency Interference Protection of Communications
Between the Deep Space Network and Deep Space Flight
Projects,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 125-131, April 15, 1981.

Katow, M. S.,
"34-Meter Antenna-Subreflector Translations to Maximize RF
Gain,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 112-120, April 15, 1981.

Katow, M. S.,
"DSS 14 64-Meter Antenna—Computed RF Pathlength
Changes Under Gravity Loadings,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 123-131, August 15, 1981.

Katow, M. S.,
"Wind Loads for Bar-Truss Structures,"
The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1980,
pp. 149-153, February 15, 1981.

Katz, J.,
"High Power Semiconductor Lasers for Deep Space
Communications,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 40-50, June 15, 1981.

Katz, J.,
"Phase-Locking of Semiconductor Injection Lasers,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 101-114, December 15, 1981.

Katz, J.,
"Power Efficiency of Semiconductor Injection Lasers,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 94-100, December 15, 1981.

Katz, J.,
"The Deep Space Optical Channel: II. Wave Propagation
Effects,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 53-58, October 15, 1981.

Katz, J.,
"The Deep-Space Optical Channel: I. Noise Mechanisms,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 180-186, August 15, 1981.

Kelly, K. C., C. Y. Lin, and M. McKenzie.,
"DSN Model for Use in Strategic Planning,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 25-31, October 15, 1981.

Khatib, A. R., A. L. Berman, and J. A. Wackley,
"Space Shuttle Launch Era Spacecraft Injection Errors and
DSN Initial Acquisition,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 80-82, August 15, 1981.

Knapp, L. J.,
"Frequency Standard Test Facility Data Acquisition and
Processing System,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 22-30, April 15, 1981.

Koh, J. L.,
"Recycling Used Lubricating Oil at the Deep Space Stations,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 239-246, August 15, 1981.

Komarek, T. A., J. G. Meeker, and R. B. Miller,
"ISPM X-Band Uplink Technology Demonstration: Part I.
Overview,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 50-62, April 15, 1981.

Korwar, V. N.,
"Coherent Reference Generator Phase Stability,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 222-231, August 15, 1981.

Korwar, V. N., and P. J. Lee,
"End-to-End Quality Measure for Transmission of Compressed Imagery Over a Noisy Coded Channel,"
The Telecommunications and Data Acquisition Progress Report 42-62: January and February 1981,
pp. 63-72, April 15, 1981.

Lansing, F. L.,
"A Sensitivity Model for Energy Consumption in Buildings: Part I, Effect of Exterior Environment,"
The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980,
pp. 58-88, February 15, 1981.

Lansing, F. L.,
"An Optimization Model for Energy Generation and Distribution in a Dynamic Facility,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
pp. 206-237, October 15, 1981.

Lansing, F. L.,
"Assessment of Solar-Assisted Gas-Fired Heat Pump Systems,"
The Telecommunications and Data Acquisition Progress Report 42-63: March and April 1981,
pp. 154-190, June 15, 1981.

Lau, K. Y.,
"Propagation Path Length Variations Due to Bending of Optical Fibers,"
The Telecommunications and Data Acquisition Progress Report 42-63: March and April 1981,
pp. 26-32, June 15, 1981.

Lee, P., and T. Yan,
"Optimum Design of Hybrid Phase Locked Loops,"
The Telecommunications and Data Acquisition Progress Report 42-62: January and February 1981,
pp. 87-95, April 15, 1981.

Lee, P. J.,
"On the Group Delay Effect of DSN Microwave Components on Multimegabit Telemetry,"
The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981,
pp. 59-65, February 15, 1982.

Lesh, J. R.,
"Capacity Limit of the Noiseless, Energy-Efficient Optical PPM Channel,"
The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981,
pp. 54-58, February 15, 1982.

Lesh, J. R., J. Katz, H. H. Tan, and D. Zwillinger,
"2.5-Bit/Detected Photon Demonstration Program: Description, Analysis, and Phase I Results,"

The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
pp. 115-132, December 15, 1981.

Lo, Y.,
"Temperature Stabilized Phase Detector,"
The Telecommunications and Data Acquisition Progress Report 42-64: May and June 1981,
pp. 90-95, August 15, 1981.

Lo, Y. V.,
"A Four-Way Distribution Amplifier for Reference Signal Distribution,"
The Telecommunications and Data Acquisition Progress Report 42-62: January and February 1981,
pp. 31-34, April 15, 1981.

LuValle, J. V., R. D. Shaffer, M. G. Roth, T. M. Eubanks, and P. S. Callahan,
"Operational VLBI Clock Synchronization and Platform Parameter Determination,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
pp. 307-318, December 15, 1981.

Lytle, P. J.,
"Current Status of the HAL/S Compiler on the Modcomp Classic 7870 Computer,"
The Telecommunications and Data Acquisition Progress Report 42-64: May and June 1981,
pp. 232-234, August 15, 1981.

Madrid, G. A.,
"The DSN Programming System,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
pp. 19-23, December 15, 1981.

Malek, H.,
"Symbol Error Rate Performance Evaluation of the LM37 Multimegabit Telemetry Modulator-Demodulator Unit,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
pp. 59-74, October 15, 1981.

Maleki, L., and T. K. Tucker,
"The Development of a Magnetically Enhanced Hydrogen Gas Dissociator,"
The Telecommunications and Data Acquisition Progress Report 42-67: November and December 1981,
pp. 24-28, February 15, 1982.

Martin, H.,
"Goldstone (GDSCC) Administrative Computing,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
pp. 182-191, October 15, 1981.

- McClung, C. E., G. L. Ball, III, G. H. Jenkins, R. D. Casperson, G. P. Gale, A. A. Rlewe, and J. L. Schwendeman,**
 "Development of a Polymetric Grout for the Hydrostatic Bearing at DSS 14,"
The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980,
 pp. 115-148, February 15, 1981.
- McClure, J. P.,**
 "GCF-NOCC Reconfiguration,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
 pp. 288-290, December 15, 1981.
- McEllece, R. J.,**
 "RFI Channels, II,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 75-80, October 15, 1981.
- McEllece, R. J., and E. R. Rodemich,**
 "The R_0 Parameter for the Gaussian Channel,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 81-85, October 15, 1981.
- McGinness, H.,**
 "Antenna Azimuth Bearing Model Experiment,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
 pp. 291-306, December 15, 1981.
- McGinness, H., and G. Gale,**
 "Rehabilitation of 64-Meter-Antenna Radial Bearing,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 151-161, October 15, 1981.
- McKinney, R. P., and N. I. Yamane,**
 "ORION—Microwave Water Vapor Radiometer Subsystem Design,"
The Telecommunications and Data Acquisition Progress Report 42-62: January and February 1981,
 pp. 10-14, April 15, 1981.
- McNeil, J. A., and S. M. Petty,**
 "Traveling-Wave Maser, Closed Cycle Refrigerator Automation,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 99-103, October 15, 1981.
- Menninger, F. J., and R. J. Elder,**
 "A Solar Powered Water Purification System at Goldstone (DSS 13),"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
 pp. 352-354, December 15, 1981.
- Miller, R. L., T. K. Truong, and T. S. Reed,**
 "A Decoding Failure Test for the Transform Decoder of Reed-Solomon Codes,"
The Telecommunications and Data Acquisition Progress Report 42-62: January and February 1981,
 pp. 121-124, April 15, 1981.
- Morabito, D. D., R. A. Preston, and J. Faulkner,**
 "A VLBI Survey of the Northern Polar Cap Region,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
 pp. 30-36, December 15, 1981.
- Morabito, D. D., D. L. Jauncey (CSIRO, Sydney, Australia), R. A. Preston, and M. A. Slade,**
 "Arcsecond Positions for Milliarcsecond VLBI Nuclei of Extragalactic Radio Sources, Part I: 546 Sources,"
The Telecommunications and Data Acquisition Progress Report 42-66: September and October 1981,
 pp. 37-48, December 15, 1981.
- Nevarez, R.,**
 "Pioneers 6 Through 12 Mission Support,"
The Telecommunications and Data Acquisition Progress Report 42-63: March and April 1981,
 pp. 16-18, June 15, 1981.
- Nevarez, R. E.,**
 "Pioneer 10 and 11 Mission Support,"
The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980,
 pp. 17-21, February 15, 1981.
- Nevarez, R. E.,**
 "Pioneers 6 Through 12 Mission Support,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 32-33, October 15, 1981.
- Odd, C. W., and S. F. Abbate,**
 "Command System Output Bit Verification,"
The Telecommunications and Data Acquisition Progress Report 42-61: November and December 1980,
 pp. 112-114, February 15, 1981.
- Olver, A. D.,**
 "Design of Throat Section of Conical Corrugated Horns,"
The Telecommunications and Data Acquisition Progress Report 42-65: July and August 1981,
 pp. 86-93, October 15, 1981.
- Otoshi, T. Y.,**
 "An FM/CW Method for the Measurements of Time Delays of Large Cassegrain Antennas,"
The Telecommunications and Data Acquisition Progress Report

42-66: September and October 1981,
pp. 49-59, December 15, 1981.

Otoshi, T. Y.,
"Antenna Beam Solid Angle Relationships,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 168-172, August 15, 1981.

Park, Y. H.,
"Analysis of Tracking Performance of the MTDD Costas Loop
for UQPSK Signal,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 96-108, August 15, 1981.

Park, Y. H.,
"Experimental Results on Tracking Performance of the MTDD
Costas Loop with UQPSK Signal,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 109-115, August 15, 1981.

Peterson, J. C.,
"Developing New Architectures for the Block II VLBI
Correlator System,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 30-40, August 15, 1981.

Plankey, B.,
"Computer-Simulated Building Energy Consumption for
Verification of Energy Conservation Measures in Network
Facilities,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 142-146, April 15, 1981.

Posner, E. C.,
"Strategies for Weather-Dependent Data Acquisition,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 34-46, October 15, 1981.

Rayburn, J. C.,
"Electrical Load Management at the Goldstone DSN
Complex,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 219-225, June 15, 1981.

Remer, D. S., and G. Lorden,
"Life-Cycle Cost Analysis of Projects Using a Polynomial Cash
Flow Model for Nonuniform Maintenance and Operations
Costs,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 191-201, December 15, 1981.

Schonfeld, D.,
"Analysis of Capacitive Heat Exchangers—Part I,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 207-221, August 15, 1981.

Schonfeld, D., and T. Charnig,
"Fuel Cells Feasibility Status Report,"
The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1980,
pp. 154-168, February 15, 1981.

Seidel, B. L.,
"Gain Uncertainty of Arrayed Antennas,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 186-190, December 15, 1981.

Shaffer, R. D., J. T. McCluskey, and G. S. Downs,
"Planetary Radar,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
p. 205, October 15, 1981.

Shaffer, R. D., P. R. Wolken, and R. F. Jurgens,
"Planetary Radar,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
p. 226, June 15, 1981.

Shaffer, R. D., S. Gulkis, and P. R. Wolken,
"Radio Astronomy,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 1-2, June 15, 1981.

Shaffer, R. D., P. R. Wolken, and A. E. Niell,
"Radio Astronomy,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 1-2, April 15, 1981.

Shaffer, R. D., J. T. McCluskey, S. Gulkis, M. Klein, and
T. Kuiper,
"Radio Astronomy,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 1-3, October 15, 1981.

Shaffer, R. D., G. S. Levy, H. C. Wilck, M. J. Grimm,
S. Gulkis, T. B. Kuiper, and E. T. Olsen,
"Radio Astronomy,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 1-3, December 15, 1981.

Sirpilla, R. L.,
"The Quality Assurance Role in the Deep Space Network,"

The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 162-168, October 15, 1981.

Slobin, S. D., M. M. Franco, and C. T. Stelzried,
"20.7- and 31.4-GHz Atmospheric Noise Temperature
Measurements,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 132-139, August 15, 1981.

Slobin, S. D., C. T. Stelzried, E. M. Andres, and
M. M. Franco,
"X-Band Atmospheric Noise Temperature Statistics at
Goldstone, DSS 13, 1979 and 1980, and Clear Air Noise
Temperature Models for Goldstone,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 161-167, August 15, 1981.

Sosa, E. N.,
"Station Stability Measurement,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 35-42, April 15, 1981.

Sosa, E. N., and D. A. Tyner,
"Synthesizer Stability Evaluation,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 319-330, December 15, 1981.

Sosa, E. N., T. Sato, and D. A. Tyner,
"Narrow Channel Bandwidth Receiver for VLBI,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 18-29, August 15, 1981.

Stahnke, W.,
"New S-Band Transmitter Automation Software,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 214-218, December 15, 1981.

Stelzried, C., and S. Slobin,
"Calculation of Atmospheric Loss From Microwave
Radiometric Noise Temperature Measurements,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 73-80, April 15, 1981.

Stelzried, C. T.,
"Atmospheric Noise Temperature Measurements,"

The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 87-96, June 15, 1981.

Stelzried, C. T.,
"Noise Temperature and Noise Figure Concepts: DC to Light,"
The Telecommunications and Data Acquisition Progress Report
42-67: November and December 1981,
pp. 100-111, February 15, 1982.

Subelman, E. J.,
"Minimizing the Time to Troubleshoot a Failed System,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 113-117, October 15, 1981.

Subelman, E. J.,
"The Reliability of Multistate, Multioutput Systems,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 96-104, April 15, 1981.

Sue, M. K.,
"Telemetry Degradation due to a CW RFI Induced Carrier
Tracking Error for the Block IV Receiving System With
Maximum Likelihood Convolutional Decoding,"
The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1981,
pp. 103-111, February 15, 1981.

Tan, H. H.,
"Capacity of a Multimode Direct Detection Optical
Communication Channel,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 51-70, June 15, 1981.

Tausworthe, R. C.,
"Deep Space Network Software Cost Estimation Model,"
The Telecommunications and Data Acquisition Progress Report
42-61: November and December 1980,
pp. 39-57, February 15, 1981.

Tausworthe, R. C.,
"Implications of the Putnam Software Equation on Confidence
Levels for Project Success,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 172-185, December 15, 1981.

Thom, E. H., and T. Y. Otoshi,
"Surface Resistivity Measurements of Candidate Subreflector
Surfaces,"
The Telecommunications and Data Acquisition Progress Report
42-65: July and August 1981,
pp. 142-150, October 15, 1981.

- Thorman, H. C.,**
 "DSN Command System,"
The Telecommunications and Data Acquisition Progress Report
 42-64: May and June 1981,
 pp. 53-60, August 15, 1981.
- Tisdale, W.,**
 "Emergency Telemetry Performance,"
The Telecommunications and Data Acquisition Progress Report
 42-66: September and October 1981,
 pp. 335-340, December 15, 1981.
- Vilnrotter, V. A.,**
 "A Binary Coherent Optical Receiver for the Free-Space Channel,"
The Telecommunications and Data Acquisition Progress Report
 42-61: November and December 1980,
 pp. 27-38, February 15, 1981.
- Vilnrotter, V. A.,**
 "An M-ary Coherent Optical Receiver for the Free-Space Channel,"
The Telecommunications and Data Acquisition Progress Report
 42-66: September and October 1981,
 pp. 60-66, December 15, 1981.
- Vilnrotter, V. A.,**
 "The Effects of Pointing Errors on the Performance of Optical Communications Systems,"
The Telecommunications and Data Acquisition Progress Report
 42-63: March and April 1981,
 pp. 136-146, June 15, 1981.
- Wackley, J. A.,**
 "The DSN Tracking System,"
The Telecommunications and Data Acquisition Progress Report
 42-63: March and April 1981,
 pp. 8-15, June 15, 1981.
- Ward, S. C.,**
 "The Operational Performance of Hydrogen Masers in the Deep Space Network,"
The Telecommunications and Data Acquisition Progress Report
 42-63: March and April 1981,
 pp. 203-218, June 15, 1981.
- Wechsler, E. R.,**
 "High Speed Front End of the Multimegabit Telemetry Demodulator Detector,"
The Telecommunications and Data Acquisition Progress Report
 42-62: January and February 1981,
 pp. 43-49, April 15, 1981.
- Weisman, W. D.,**
 "Investigation of Digitally Controlled Oscillator Operability Problems,"
The Telecommunications and Data Acquisition Progress Report
 42-66: September and October 1981,
 pp. 331-334, December 15, 1981.
- Wilcher, J. H.,**
 "Block I Phase 2 Very Long Baseline Interferometry Implementation,"
The Telecommunications and Data Acquisition Progress Report
 42-66: September and October 1981,
 pp. 15-18, December 15, 1981.
- Winkelstein, R.,**
 "Closed Form Evaluation of Symmetric Two-Sided Complex Integrals,"
The Telecommunications and Data Acquisition Progress Report
 42-65: July and August 1981,
 pp. 133-141, October 15, 1981.
- Withington, J. R.,**
 "Second Generation X/S Feedcone: Capabilities, Layout and Components,"
The Telecommunications and Data Acquisition Progress Report
 42-63: March and April 1981,
 pp. 97-103, June 15, 1981.
- Wolken, P. R., M. V. Gorenstein (Massachusetts Institute of Technology), and R. D. Shaffer,**
 "Radio Astronomy,"
The Telecommunications and Data Acquisition Progress Report
 42-64: May and June 1981,
 pp. 1-2, August 15, 1981.
- Wu, S. C.,**
 "Atmospheric Media Effects on ARIES Baseline Determination,"
The Telecommunications and Data Acquisition Progress Report
 42-61: November and December 1980,
 pp. 1-6, February 15, 1981.
- Wu, S. C.,**
 "Proper Frequencies of a Down-Looking Water-Vapor Radiometer Over Sea Surface,"
The Telecommunications and Data Acquisition Progress Report
 42-66: September and October 1981,
 pp. 4-14, December 15, 1981.
- Yan, T. Y., and L. Clare,**
 "An Efficient Technique for the Performance Evaluation of Antenna Arrays with Noisy Carrier Reference,"
The Telecommunications and Data Acquisition Progress Report
 42-64: May and June 1981,
 pp. 194-206, August 15, 1981.
- Yeater, M. L., and D. T. Herrman,**
 "Networks Consolidation Program,"
The Telecommunications and Data Acquisition Progress Report
 42-65: July and August 1981,
 pp. 19-24, October 15, 1981.

Yung, C. S.,
"Computerized Energy Analysis for the Mars Operations Support Building,"
The Telecommunications and Data Acquisition Progress Report
42-64: May and June 1981,
pp. 247-257, August 15, 1981.

Zohar, S.,
"A Multiple Access Communication Network Based On Adaptive Arrays,"
The Telecommunications and Data Acquisition Progress Report
42-63: March and April 1981,
pp. 118-127, June 15, 1981.

Zwilling, D.,
"Maximizing Throughput Over an Average-Power-Limited and Band-Limited Optical Pulse Position Modulation Channel,"
The Telecommunications and Data Acquisition Progress Report
42-62: January and February 1981,
pp. 81-86, April 15, 1981.

Zygielbaum, A. I., and A. Robinson,
"Sine Wave Ranging Revisited,"
The Telecommunications and Data Acquisition Progress Report
42-66: September and October 1981,
pp. 202-210, December 15, 1981.

Open Literature

Ajello, J. M., and S. K. Srivastava,
"UV Studies of Electron Impact Excitation of CS_2 ,"
Journal of Chemical Physics,
Vol. 75, No. 9, pp. 4454-4463, November 1, 1981.

Ananda, M. P., W. L. Sjogren, R. J. Phillips,
R. N. Wimberley, and B. G. Mills,
"A Low-Order Global Gravity Field of Venus and Dynamical
Implications,"
Journal of Geophysical Research,
Vol. 85, No. A13, pp. 8303-8318, December 30, 1980.

Ananda, M. P., F. E. Winn, F. T. Nicholson, and
C. B. Smith,
"Interplanetary Beacon for Deep Space Navigation,"
IEEE Plans 80 Position Location and Navigation Symp.,
Atlantic City, N.J., December 8-11, 1980.,
pp. 397-404.

Anicich, V. G., M. J. McEwen (University of Canterbury),
and W. T. Huntress, Jr.,
"An ICR Investigation of Ion—Molecule Reactions of HCN,"
International Journal of Mass Spectrometry and Ion Physics,
Vol. 37, pp. 273-281, 1981.

Appel, M. A., and G. W. Kruger,
"Technology Status of a Liquid Fluorine-Hydrazine Rocket
Engine,"
Journal of Spacecraft and Rockets,
Vol. 18, No. 2, pp. 190-192, March 1980.

Apt, J., J. V. Martonchik, and L. R. Brown,
"Comparison of Band Model and Integrated Line-By-Line
Synthetic Spectra for Methane in the $2.3\ \mu m$ Region,"
Journal of Quantum Spectroscopy Radiation Transfer,
Vol. 26, No. 5, pp. 432-442, 1981.

Armstrong, J. W., and R. Woo,
"Solar Wind Motion Within $30 R_{\odot}$: Spacecraft Radio
Scintillation Observations,"
Astronomy and Astrophysics,
Vol. 103, pp. 415-421, 1981.

Armstrong, J. W., J. M. Cordes (Cornell University) and
B. J. Rickett (University of California, San Diego),
"Density Power Spectrum in the Local Interstellar Medium,"
Nature,
Vol. 291, No. 5816, pp. 561-564, June 18, 1981.

Aston, G.,
"High Efficiency Ion Beam Accelerator System,"
Review of Scientific Instruments,
Vol. 52, No. 9, pp. 1325-1327, September 1981.

Aston, G.,
"Hollow Cathode Startup Using a Microplasma Discharge,"
Review Scientific Instruments,
Vol. 52, No. 8, pp. 1259-1260, August 1981.

Aumann, H. H., T. N. Hibbard, and K. I. Moyd,
"Source Detection for the Infrared Astronomical Satellite,"
SPIE: Applications of Digital Image Processing to Astronomy,
Vol. 264, pp. 89-94, 1980.

AuYeung, J.,
"Picosecond Optical Pulse Generation at Gigahertz Rates by
Direct Modulation of a Semiconductor Laser,"
Applied Physics Letters,
Vol. 38, No. 5, pp. 308-310, March 1, 1981.

AuYeung, J.,
"Theory of Active Mode Locking of a Semiconductor Laser in
an External Cavity,"
IEEE Journal of Quantum Electronics,
Vol. QE-17, No. 3, pp. 398-404, March 1981.

AuYeung, J., and A. R. Johnston,
"Ultrashort Pulse Generation in Semiconductor Lasers,"
SPIE: Integrated Optics,
Vol. 269, pp. 84-91, 1981.

AuYeung, J. C., and A. R. Johnston,
"Picosecond Pulse Generation from a Synchronously Pumped
Mode-Locked Semiconductor Laser Diode,"
Applied Physics Letters,
Vol. 40, No. 2, pp. 112-114, January 15, 1982.

Bahrami, K., and R. Ramakumar (Oklahoma State
University),
"Dispersed Solar Thermal Generation Employing Parabolic
Dish-Electric Transport with Field Modulated Generator
Systems,"
Solar Energy,
Vol. 27, pp. 7-11, 1981.

Birnbaum, M. M.,
"Voyager Spacecraft Images of Jupiter and Saturn,"
Applied Optics,
Vol. 21, No. 2, pp. 214-227, January 15, 1982.

Blom, R., and M. Daily,
"Seasat Views California with Imaging Radar,"
California Geology,
Vol. 34, No. 11, pp. 231-251, November 1981.

Blom, R., and C. Elachi,
"Spaceborne and Airborne Radar Observations of Sand
Dunes,"

Journal of Geophysical Research,
Vol. 86, No. B4, pp. 3061-3073, April 10, 1981.

Born, G. H., and B. D. Tapley (University of Texas),
"The Seasat Precision Orbit Determination Experiment,"
Journal of the Astronautical Sciences,
Vol. XXVIII, No. 4, pp. 315-326, October 1980.

Bouquet, F. L.,
"UV Transmission Through Glass of Commercial Mirrors,"
Solar Energy,
Vol. 25, pp. 575-576, 1980.

Bowman, R. C., and W. K. Rhim,
"Proton NMR Studies of Electronic Structure in
 $Ti_{1-y}V_yH_{1.95}$,"
Physical Review B,
Vol. 24, No. 4, pp. 2232-2235, August 15, 1981.

Breckinridge, J. B., F. G. O'Callaghan, and A. G. Cassie
(Honeywell Electro-Optics Center),
"Optical Alignment of High Resolution Fourier Transform
Spectrometers,"
SPIE: Optical Alignment,
Vol. 251, pp. 94-99, 1980.

Brinkman, R. T., and S. Trajmar,
"Effective Path Length Corrections in Beam-Beam Scattering
Experiments,"
Journal of Physics E: Scientific Instruments,
Vol. 14, pp. 245-254, 1981.

Brown, L. R., R. A. Toth, J. W. Brault (Kitt Peak National
Observatory), and R. H. Hunt (Florida State University),
"Line Assignments and Intensities of the $\nu_2 \nu_3 - \nu_2$ Band of
 $^{12}CH_4$,"
Journal of Molecular Spectroscopy,
Vol. 89, pp. 528-541, 1981.

Bryan, M. L.,
"Optically Processed Seasat Radar Mosaic of Florida,"
Photogrammetric Engineering and Remote Sensing,
Vol. 47, No. 9, pp. 1335-1337, September 1981.

Bryan, M. L.,
"Radar Study of a Vegetated Pediment,"
Journal of Soil and Water Conservation,
Vol. 36, No. 5, pp. 305-308, September 1981.

Buehler, M. F.,
"Defining Terms in Technical Editing: The Levels of Edit as a
Model,"
Technical Communication,
4th Quarter, pp. 10-15, 1981.

Castleman, K. R., and B. S. White,
"The Effect of Abnormal Cell Proportion on Specimen
Classifier Performance,"

Cytometry,
Vol. 2, No. 4, pp. 155-158, 1981.

Cesarone, R. J.,
"Voyager 1 Saturn Targeting Strategy,"
Journal of Spacecraft and Rockets,
Vol. 19, No. 1, pp. 72-79, January 1982.

Chahine, M. T.,
"Remote Sensing of Sea Surface Temperature in the $3.7 \mu m CO_2$
Band,"
pp. 87-95, Plenum Publishing Corporation, New York, N.Y.,
1981.

Chelton, D. B.,
"Interannual Variability of the California Current—Physical
Factors,"
California Cooperative Oceanic Fisheries Investigation,
Vol. XXII, pp. 34-48, 1981.

Chelton, D. B., K. J. Hussey, and M. E. Parke,
"Global Satellite Measurements of Water Vapour, Wind Speed
and Wave Height,"
Nature,
Vol. 294, No. 5841, pp. 529-532, December 10, 1981.

Chen, C. P., and M. H. Leipold,
"The Application of Fracture Mechanics to Failure Analysis of
Photovoltaic Solar Modules,"
*Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee,
Florida, May 12-15, 1981.*,
pp. 1122-1125.

Chen, J. C., K. P. Zagzebski, and J. A. Garba,
"Recovered Transient Load Analysis for Payload Structural
Systems,"
Journal of Spacecraft and Rockets,
Vol. 18, No. 4, pp. 374-379, July 1981.

Chen, J. C., J. A. Garba, M. Salama, and M. Trubert,
"A Survey of Load Methodologies for Shuttle Orbiter
Payloads,"
*AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynam.
& Mat. Conf., Atlanta, GA, April 6-8, 1981.*,
pp. 312-319.

Chutjian, A.,
"Experimental SF_6/SF_6 and $Cl^-/CFCl_3$ Electron-Attachment
Cross Sections in the Energy Range 0-200 meV,"
Physical Review Letters,
Vol. 46, No. 23, pp. 1511-1514, June 8, 1981.

Chutjian, A.,
"Spectra and Cross Sections for Electron Autoionisation in
Low Energy Mg^+-Ne Collisions,"
Journal of Physics B: Atomic Molecular Physics,
Vol. 14, pp. L57-L60, 1981.

Cimino, J. B., C. Elachi, A. J. Klore, D. J. McCleese, and I. R. Fatel,

"Polar Cloud Structure as Derived From the Pioneer Venus Orbiter,"

Journal of Geophysical Research,

Vol. 85, No. A13, pp. 8082-8088, December 30, 1980.

Cizmecoglu, M., R. F. Fedors, S. D. Hong, and J. Moacanin,

"Effect of Physical Aging on Stress Relaxation of Poly(methyl Methacrylate),"

Polymer Engineering and Science,

Vol. 21, No. 14, pp. 940-942, October 1981.

Clayton, R. M.,

"Emission Characteristics of a Combustor Burning Simulated Partial-Oxidation Product Gas,"

AIAA Journal,

Vol. 19, No. 1, pp. 102-103, January 1981.

Cohen, N. S.,

"Response Function Theories that Account for Size Distribution Effects—A Review,"

AIAA Journal,

Vol. 19, No. 7, pp. 907-912, July 1981.

Collins, S. A.,

"Spatial Color Variations in the Volcanic Plume at Loki, on Io,"

Journal of Geophysical Research,

Vol. 86, No. A10, pp. 8621-8626, September 30, 1981.

Collins, S. A., G. E. Hunt (University College London),

D. Morrison (University of Hawaii), T. Owen (State

University of New York), B. A. Smith (University of

Arizona), A. F. Cook (Harvard-Smithsonian),

R. J. Terrile, T. V. Johnson, J. N. Cuzzi (NASA Ames

Research Center), J. B. Pollock (NASA Ames Research

Center), and G. E. Danielson (California Institute of

Technology),

"First Voyager View of the Rings of Saturn,"

Nature,

Vol. 288, No. 5790, pp. 439-442, December 4, 1980.

Cruz, M. I.,

"Technology Requirements for a Generic Aerocapture System,"

AIAA 15th Thermophysics Conf., Snowmass, Colo., July 14-16, 1980.,

pp. 412-439.

D'Amaro, L. A., D. V. Byrne, and R. H. Stanford,

"A New Method for Optimizing Multiple-Flyby Trajectories,"

Journal of Guidance and Control,

Vol. 4, No. 6, pp. 591-596, November 1981.

Dastoor, M. N., G. R. Peterson, and W. W. Schubert,

"Preliminary Results of In Vitro Propagation of Guayule,"

Journal of Agricultural and Food Chemistry,

Vol. 29, pp. 686-688, 1981.

Daud, T., and L. J. Cheng,

"Surface Recombination Velocity Measurement for Silicon Solar Cells,"

Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee, Florida, May 12-15, 1981.,

pp. 1183-1188.

Daud, T., J. K. Liu, and G. Fiegl (Siltec Corporation),

"Economics of Ingot Slicing with an Internal Diameter Saw for Low-Cost Solar Cells,"

Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee, Florida, May 12-15, 1981.,

pp. 1011-1015.

DeMore, W. B.,

"Rate Constant and Possible Pressure Dependence of the Reaction $\text{OH} + \text{HO}_2$,"

Journal of Physical Chemistry,

Vol. 86, pp. 121-126, 1982.

Dennison, E. W., and M. J. Argoud,

"Solar Concentrator Panel and Gore Testing in 1-Foot Space Simulator,"

AIAA 2nd Terrestrial Energy Sys. Conf., Colorado Springs, Colo., December 1-3, 1981.,

pp. 1-6.

Dennison, E. W., and R. H. Stanton,

"Ultra-Precise Star Tracking Using Charge Coupled Devices (CCDs),"

Proceedings of SPIE: Smart Sensors II,

Vol. 252, pp. 54-63, July 31, 1980.

Divsalar, D., and M. K. Simon,

"The Power Spectral Density of Digital Modulations Transmitted Over Nonlinear Channels,"

IEEE Transactions on Communications,

Vol. COM-30, No. 1, pp. 142-151, January 1982.

Downs, G. S.,

"JPL Pulsar Timing Observations. I. The Vela Pulsar,"

Astrophysical Journal,

Vol. 249, pp. 687-697, October 15, 1981.

Dumas, K. A., C. P. Khattak (Crystal Systems, Inc), and F. Schmid (Crystal Systems, Inc),

"Characterization of HEM Silicon for Solar Cells,"

Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee, Florida, May 12-15, 1981.,

pp. 954-958.

Dumas, L. N., and A. Shumka,

"Field Failure Mechanisms for Photovoltaic Modules,"

Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee,

Florida, May 12-15, 1981.,
pp. 1091-1098.

Duxbury, J. H., and B. T. Solfer,
"Infrared Astronomical Satellite (IRAS) Scientific Data
Analysis System,"
*Proceedings of SPIE: Applications of Digital Image Processing
to Astronomy*,
Vol. 264, pp. 81-88, August 1980.

Duxbury, T. C., and J. D. Callahan,
"Pole and Prime Meridian Expressions for Phobos and
Deimos,"
Astronomical Journal,
Vol. 86, No. 11, pp. 1722-1727, November 1981.

El-Raheb, M., and P. Wagner,
"Static and Dynamic Characteristics of Large Deployable
Space Reflectors,"
*AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynam.
& Mat. Conf., Atlanta, GA, April 6-8, 1981.*,
pp. 77-84.

Eng, S. T., and L. A. Bergman,
"Gigahertz Analog Modulation and Differential Delay of
GaAlAs Lasers: Temperature and Current Behavior,"
Applied Optics,
Vol. 19, pp. 3335-3342, October 1, 1980.

England, C., D. D. Lawson, and J. D. Hrubes,
"Superconductivity, Cohesive Energy Density, and
Electron-Atom Ratio in Metals,"
Journal of Applied Physics,
Vol. 52, No. 4, pp. 2923-2927, April 1981.

Ferrari, A. J., and J. T. Renfrow,
"An Analysis of the Seasat Satellite Data Distribution
System,"
OCEANS'80, An Inter. Forum on Ocean Engr. in the 80's,
Seattle, WA, September 8-10, 1980.,
pp. 509-517.

Ford, J. P.,
"Effects of Resolution versus Speckle in Spaceborne Radar
Image Interpretation: A Geologic-User Based Analysis,"
*7th Inter. Symp. on Machine Processing of Remotely Sensed
Data, June 23-26, 1981.*,
pp. 132-138.

Ford, J. P.,
"Seasat Orbital Radar Imagery for Geologic Mapping:
Tennessee-Kentucky-Virginia,"
American Association of Petroleum Geologists Bulletin,
Vol. 64, No. 12, pp. 2064-2094, December 1980.

French, J. R., and A. D. McDonald,
"Thermophysical and Systems Integration Considerations in
Aerobraking Design,"

*Aerothermodynamics and Planetary Entry: Progress in
Astronautics and Aeronautics*,
Vol. 77, pp. 396-411, 1981.

Frerking, M. A., and W. D. Langer (Princeton University),
"A Measurement of the Hyperfine Structure of $C^{17}O$,"
Journal of Chemical Physics,
Vol. 74, No. 12, pp. 6990-6991, June 15, 1981.

Fymat, A. L.,
"High-Resolution Interferometric Spectrophotopolarimetry,"
Optical Engineering,
Vol. 20, No. 1, pp. 25-30, January 1981.

Fymat, A. L., and K. D. Mease,
"Mie Forward Scattering: Improved Semiempirical
Approximation with Application to Particle Size Distribution,"
Applied Optics,
Vol. 20, No. 2, pp. 194-198, January 15, 1981.

Gaffney, E. S. (Pacifica Technology), and D. L. Matson,
"Water Ice Polymorphs and Their Significance on Planetary
Surfaces,"
Icarus,
Vol. 44, pp. 511-519, 1980.

Gallindo-Israel, V., and Y. Rahmat-Samii,
"A New Look at Fresnel Field Computation Using the
Jacobi-Bessel Series,"
IEEE Transactions on Antennas and Propagation,
Vol. AP-29, No. 6, pp. 885-898, November 1981.

Gammel, P. M., D. H. Blankenhorn (University of
Southern California), J. D. Hestenes, J. A. Rooney
(University of Maine), and H. P. Chin (University of
Southern California),
"Velocity and Attenuation of Sound in Arterial Tissues,"
Journal of Acoustical Society of America,
Vol. 71, No. 2, pp. 462-466, February 1982.

Gammell, P. M., J. A. Rooney (University of Maine),
J. D. Hestenes, H. P. Chin (University of Southern
California), and D. H. Blankenhorn (University of
Southern California),
"The Use of Ultrasonic Spectroscopy to Characterize Calcified
Lesions,"
IEEE Transactions on Sonics and Ultrasonics,
Vol. SU-28, No. 5, pp. 291-297, September 1981.

Garba, J. A., F. E. Udawadia (University of Southern
California), and S. Tabaie (University of Southern
California),
"On-Line Pulse Control for Structural and Mechanical
Systems,"
*AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynam.
& Mat. Conf., Atlanta, GA, April 6-8, 1981.*,
pp. 591-601.

Garrett, H. B.,
"The Charging of Spacecraft Surfaces,"
Reviews of Geophysics and Space Physics,
Vol. 19, No. 4, pp. 577-616, November 1981.

Garrett, H. B., and J. M. Forbes (Boston College),
"A Model of Solar Flux Attenuation During Eclipse Passage
and Its Effects on Photoelectron Emission From Satellite
Surfaces,"
Planetary Space Science,
Vol. 29, No. 6, pp. 601-607, 1981.

Gluckin, D. L., and S. F. Martin (San Fernando
Observatory),
"Application of Digital Image Processing Techniques to Faint
Solar Flare Phenomena,"
*Proceedings of SPIE: Applications of Digital Image Processing
to Astronomy*,
Vol. 264, pp. 235-242, August 20, 1980.

Glavich, T. A.,
"Radiometric and Photometric Design for an Acoustic
Containerless Experiment System,"
*AAIA 19th Aerospace Sciences Meeting, St. Louis, Missouri,
January 12-15, 1981*,
pp. 1-7.

Goetz, A. F.,
"Spectroscopic Remote Sensing for Geological Applications,"
Proceedings of SPIE: Imaging Spectroscopy,
Vol. 268, pp. 17-21, February 10, 1981.

Goetz, A. F., and L. C. Rowan (U.S. Geological Survey),
"Geologic Remote Sensing,"
Science,
Vol. 211, pp. 781-791, February 20, 1981.

Goldberg, B. A., T. V. Johnson, Y. Mekler,
R. W. Carlson, and D. L. Matson,
"Io's Sodium Emission Cloud and the Voyager 1 Encounter,"
Icarus,
Vol. 44, pp. 305-317, 1980.

Goldstein, B. E., S. T. Suess (National Oceanic and
Atmospheric Administration), and R. J. Walker
(University of California, Los Angeles),
"Mercury: Magnetospheric Processes and the Atmospheric
Supply and Loss Rates,"
Journal of Geophysical Research,
Vol. 86, No. A7, pp. 5485-5499, July 1, 1981.

Greenhall, C. A., R. L. Miller, and S. A. Batman,
"A Quick Look Decoder With Isolated Error Correction and
Node Synchronization,"
IEEE Transactions on Communications,
Vol. COM-29, No. 7, pp. 1074-1076, July 1981.

Grunthaner, P. J., F. J. Grunthaner, A. Madhukar
(University of Southern California), and J. W. Mayer
(Cornell University),
"Metal/Silicon Interface Formation: The Ni/Si and Pd/Si
Systems,"
Journal of Vacuum Science Technology,
Vol. 19, No. 3, pp. 649-656, September 1981.

Grunthaner, P. J., B. M. Ullrich (Cornell University),
F. J. Grunthaner, N. W. Cheung (University of
California, Berkeley), and J. M. Mayer (Cornell
University),
"Metal-Semiconductor Interfacial Reactions: Ni/Si System,"
Journal of Vacuum Science Technology,
Vol. 18, No. 3, pp. 917-923, April 1981.

Grunthaner, P. J., F. J. Grunthaner, D. M. Scott,
M. A. Nicolet, and J. Mayer (Cornell University),
"Oxygen Impurity Effects at Metal/Silicide Interfaces:
Formation of Silicon Oxide and Suboxides in the Ni/Si
System,"
Journal of Vacuum Science Technology,
Vol. 19, No. 3, pp. 641-648, September 1981.

Gupta, A., R. Liang, J. Moncanh, D. Kliger (University of
California, Santa Cruz), R. Goldbeck (University of
California, Santa Cruz), J. Horwitz (University of
California, Santa Cruz), and M. V. Miskowski,
"Internal Conversion in Poly(1-Vinylnaphthalene)—IV.
Photochemical Processes in Polymeric Systems,"
European Polymer Journal,
Vol. 17, No. 5, pp. 485-490, 1981.

Haines, E. L. (Eugene, Oregon), and A. E. Metzger,
"Lunar Highland Crustal Mass Based on Iron Concentrations:
Isostasy and Center-of-Mass Displacement,"
Proc. 11th Lunar and Planetary Science Conf., 1980,
pp. 689-718.

Halberstam, I., and J. P. Schieldge,
"Anomalous Behavior of the Atmospheric Surface Layer Over
a Melting Snowpack,"
Journal of Applied Meteorology,
Vol. 20, No. 3, pp. 255-265, March 1981.

Hamidi, M., and J. N. Juang (Martin Marietta
Corporation),
"Optimal Control and Controller Location for Distributed
Parameter Blast Systems,"
20th IEEE Conf. on Decision and Control, December 1981,
pp. 502-506.

Hanner, M. S.,
"On the Albedo of the Interplanetary Dust,"
Icarus,
Vol. 43, pp. 373-380, 1980.

Hanson, J. A., R. W. Foster (EscheriFoster Technology Associates), W. J. Escher (EscheriFoster Technology Associates), and R. R. Tison (EscheriFoster Technology Associates),
 "Solar/Hydrogen Systems for the 1985-2000 Time Frame: A Review and Assessment,"
International Journal of Hydrogen Energy,
 Vol. 7, No. 1, pp. 3-20, 1982.

Heacock, R. L.,
 "The Voyager Spacecraft,"
Proceedings of the Institution of Mechanical Engineers,
 Vol. 194, No. 28, pp. 211-224, 1980.

Hellings, R. W., and R. L. Zimmerman (University of Oregon),
 "Gravitational Radiation Dominated Cosmologies,"
Astrophysical Journal,
 Vol. 241, pp. 474-485, October 15, 1980.

Hellings, R. W., P. S. Callahan, J. D. Anderson, and A. T. Moffet,
 "Spacecraft-Doppler Gravity-Wave Detection. II. Results,"
Physical Review D,
 Vol. 23, No. 4, pp. 844-851, February 15, 1981.

Hinkley, E. D.,
 "Advanced Instrumentation for Remote Sensing,"
Journal of the Astronautical Sciences,
 Vol. XXIX, No. 2, pp. 97-111, April 1981.

Hofer, R., and E. G. Njoku,
 "Regression Techniques for Oceanographic Parameter Retrieval Using Space-Borne Microwave Radiometry,"
IEEE Transactions on Geoscience and Remote Sensing,
 Vol. GE-19, No. 4, pp. 178-189, October 1981.

Hofer, R., J. W. Waters, and E. G. Njoku,
 "Microwave Radiometric Measurements of Sea Surface Temperature from the Seasat Satellite: First Results,"
Science,
 Vol. 212, pp. 1385-1387, June 19, 1981.

Holt, D.,
 "Availability of SEASAT Synthetic Aperture Radar Imagery,"
Remote Sensing of Environment,
 Vol. 11, pp. 413-417, 1981.

Hong, S. D., F. Schwarzl, J. Moncanin, R. F. Landel, and R. F. Fedors,
 "Analysis of the Tensile Stress-Strain Behavior of Elastomers at Constant Strain Rates. I. Criteria for Separability of the Time and Strain Effects,"
Polymer Engineering and Science,
 Vol. 21, No. 11, pp. 688-695, August 1981.

Hsiao, S. Y., O. H. Shemdin, and J. F. Vesecky (Stanford University),
 "An Investigation of Wave Shattering by Islands,"
Proc. 17th Inter. Coastal Engineering Conf., ASCE, Sydney, Australia, March 23-28, 1980.,
 pp. 840-849.

Hull, G., C. R. Glazer, J. Harper-Tervet, M. F. Humphrey, and K. N. Ramohalli,
 "Gasification of Carbon Fiber Composites for the Alleviation of Electrical Hazards,"
I&EC Product Research and Development,
 Vol. 20, pp. 552-555, 1981.

Huntress, W. T., G. Mitchell (Saint Mary's University), and S. S. Prasad,
 "Chemical Model Calculations of C₂, C₃, CH, CN, OH, and NH₂ Abundances in Cometary Comae,"
Astrophysical Journal,
 Vol. 244, pp. 1087-1093, March 15, 1981.

Huntress, Jr., W. T., M. J. McEwan (University of Canterbury), Z. Karpas, and V. G. Aniech,
 "Laboratory Studies of Some of the Major Ion-Molecule Reactions Occurring in Cometary Comae,"
Astrophysical Journal Supplement Series,
 Vol. 44, pp. 481-488, December 1980.

Jackson, H. W.,
 "Can He³ - He⁴ Dilution Refrigerators Operate Aboard Spacecraft?"
Cryogenics,
 pp. 59-62, February 1982.

Jaffe, L. D., and P. T. Poon,
 "Secondary Concentrators for Parabolic Dish Solar Thermal Power Systems,"
Proc. 16th Intersoc. Energy Conver. Engr. Conf.,
 Vol. 2, pp. 1752-1758.

Jahanshahi, M. H.,
 "Voyager High Gain Antenna Pointing Calibration,"
Journal of the Astronautical Sciences,
 Vol. XXVIII, No. 2, pp. 167-193, April 1980.

Jamnejad-Dallami, V., and Y. Rahmat-Samii,
 "Some Important Geometrical Features of Conic-Section-Generated Offset Reflector Antennas,"
IEEE Transactions on Antennas and Propagation,
 Vol. AP-28, No. 6, pp. 952-957, November 1980.

Janssen, M. A., and M. J. Klein,
 "Constraints of the Composition of the Venus Atmosphere from Microwave Measurements Near 1.35 cm Wavelength,"
Icarus,
 Vol. 46, pp. 58-69, 1981.

- Janssen, M. A., and R. L. Poynter,
 "The Microwave Absorption of SO_2 in the Venus Atmosphere,"
Icarus,
 Vol. 46, pp. 51-57, 1981.
- Johnson, T. V., S. P. Symnott, A. F. Cook (Harvard-Smithsonian), E. M. Shoemaker (U.S. Geological Survey), B. A. Smith (University of Arizona), and G. E. Danielson (California Institute of Technology),
 "Volcanic Origin of the Eruptive Plumes on Io,"
Science,
 Vol. 211, pp. 1419-1422, March 21, 1981.
- Johnston, A. R., L. A. Bergman, and E. W. Taylor (Air Force Weapons Laboratory),
 "Fiber Optic Experiment for the Shuttle Long-Duration Exposure Facility,"
SPIE: Fibers Optics in Adverse Environments,
 Vol. 296, pp. 125-133, 1981.
- Jones, R. M.,
 "Propellant Injection for MPD Thrusters,"
Progress in Astronautics and Aeronautics,
 Vol. 79, pp. 564-576, 1981.
- Jurgens, R. F., R. M. Goldstein, H. R. Runsey, and R. R. Green,
 "Images of Venus by Three-Station Radar Interferometry—1977 Results,"
Journal of Geophysical Research,
 Vol. 85, No. A13, pp. 8282-8294, December 30, 1980.
- Kachare, A. H., and G. F. Garlick,
 "Annealing and Anomalous High-Energy Electron Irradiation Effects in Low-Cost Silicon N^{15}P Solar Cells,"
Applied Physics Letters,
 Vol. 39, No. 6, pp. 501-503, September 15, 1981.
- Kachare, A. H., S. L. Hyland, and G. F. Garlick,
 "Investigation of Solar Cells Fabricated on Low-Cost Silicon Sheet Materials Using 1 MeV Electron Irradiation,"
Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee, Florida, May 12-15, 1981,
 pp. 603-607.
- Kavaya, M. J., R. T. Menzies, and U. P. Oppenheim,
 "Optogalvanic Stabilization and Offset Tuning of a Carbon Dioxide Waveguide Laser,"
IEEE Journal of Quantum Electronics,
 Vol. QE-18, No. 1, pp. 19-21, January 1981.
- Keckichian, J. A.,
 "Spin-Controlled Maneuver Strategies Using Unbalanced Precessions,"
AIAA Guidance and Control Conf., Albuquerque, New Mexico, August 19-21, 1981,
 pp. 91-120.
- Keyser, L. F.,
 "Absolute Rate Constant of the Reaction of $\text{OH} + \text{HO}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$,"
Journal of Physical Chemistry,
 Vol. 85, pp. 3667-3673, 1981.
- Kim, Q., and R. B. Somoano,
 "Raman Study of the Improper Ferroelectric Phase Transition in Iron Iodine Boracite,"
Ferroelectrics,
 Vol. 36, pp. 431-434, 1981.
- Klein, M. J., W. J. Wilson, R. K. Kahar, S. Gulks, E. T. Olsen, and P. T. Ho (University of California, Berkeley),
 "Venus: I. Carbon Monoxide Distribution and Molecular-Line Searches,"
Icarus,
 Vol. 45, pp. 624-637, 1981.
- Kllore, A. J., and I. R. Patel,
 "Vertical Structure of the Atmosphere of Venus From Pioneer Venus Orbiter Radio Occultations,"
Journal of Geophysical Research,
 Vol. 85, No. A13, pp. 7957-7962, December 30, 1980.
- Kllore, A. J., C. Elachi, and I. R. Patel,
 "Reply to 'Comment on Absorbing Regions in the Atmosphere of Venus as Measured by Radio Occultation' by V. R. Eshleman et al.,"
Icarus,
 Vol. 44, pp. 804-806, 1980.
- Kllore, A. J., I. R. Patel, G. F. Lindal, D. N. Sweetnam, H. B. Hotz, J. J. Walte (University of Michigan), and T. R. McDonough (Pasadena Interdisciplinary Research),
 "Structure of the Ionosphere and Atmosphere of Saturn From Pioneer 11 Saturn Radio Occultation,"
Journal of Geophysical Research,
 Vol. 85, No. A11, pp. 5857-5870, November 1, 1980.
- Kulper, T. B., B. Zuckerman (University of Maryland), and E. N. Kulper (Ball Aerospace Systems Division),
 "High Velocity Molecular Emission in Orion: A Case for Stellar Winds,"
Astrophysical Journal,
 Vol. 251, pp. 88-102, December 1, 1981.
- Kuo, C. P., and F. E. Udowadia (University of Southern California),
 "Non-Parametric Identification of a Class of Non-Linear Close-Coupled Dynamic Systems,"
Earthquake Engineering and Structural Dynamics,
 Vol. 9, pp. 385-409, 1981.
- Lai, J. Y., and S. A. Hayati,
 "Simultaneous In-Flight Calibrations of the Galileo Science Platform and Attitude Control Subsystems,

AIAA Guidance and Control Conf., Albuquerque, New Mexico, August 19-21, 1981., pp. 500-512.

Landel, R. F.,
Problems Encountered With Conventional Fiber-Reinforced Composites,
p. 149-166, Plenum Publishing Corporation, New York, N.Y., 1981.

Lavin, M. L., and P. J. Sullivan,
"New Technologies: How to Assess Environmental Effects,"
Environmental Science and Technology,
Vol. 15, No. 3, pp. 262-267, March 1981.

Lawson, D. D., T. F. Terranova, and K. V. Scherer, Jr.
(University of Southern California),
"F-2-Methyl-2-pentanol, An Easily-Prepared Perfluorinated Tertiary Alcohol,"
Journal of Organic Chemistry,
Vol. 46, pp. 2379-2381, 1981.

Lee, M. C.,
"Application of an Ultrasonic Focusing Radiator for Acoustic Levitation of Submillimeter Samples,"
1981 Ultrasonics Symp. Proc., Chicago, Illinois, October 14-16, 1981.,
pp. 904-911.

Lee, S. W., and P. W. Cramer, Jr.,
"Determination of Specular Points on a Surface of Revolution,"
IEEE Transactions on Antennas and Propagation,
Vol. AP-29, No. 44, pp. 662-664, July 1981.

Lee, S. W., and Y. Rahmat-Samii,
"Simple Formulas for Designing an Offset Multibeam Parabolic Reflector,"
IEEE Transactions on Antennas and Propagation,
Vol. AP-29, No. 3, pp. 472-478, May 1981.

Leu, M. T., and R. H. Smith (Macquarie University),
"Kinetics of the Gas-Phase Reaction Between Hydroxyl and Carbonyl Sulfide Over the Temperature Range 300 to 517 K,"
Journal of Physical Chemistry,
Vol. 85, pp. 2570-2575, 1981.

Leu, M. T., and R. H. Smith (Macquarie University),
"Rate Constants for the Gas Phase Reaction Between Hydroxyl and Hydrogen Sulfide Over the Temperature Range 228 to 518 K,"
Journal of Physical Chemistry,
Vol. 86, pp. 73-81, 1982.

Leung, E., N. Jacobi, and T. Wang,
"Acoustic Radiation Force On a Rigid Sphere in a Resonance Chamber,"

Journal of Acoustical Society of America,
Vol. 70, No. 6, pp. 1762-1767, December 1981.

Levitt, B. K.,
"Carrier Tracking Loop Performance in the Presence of Strong CW Interference,"
IEEE Transactions on Communications,
Vol. COM-29, No. 6, pp. 911-916, June 1981.

Levy, G. S., D. W. Green, H. N. Royden, G. E. Wood, and G. L. Tyler (Stanford University),
"Dispersive Doppler Measurement of the Electron Content of the Torus of Io,"
Journal of Geophysical Research,
Vol. 86, No. A10, pp. 8467-8470, September 30, 1981.

Levy, R., and W. Parzynski (Montclair State College),
"Optimality Criteria Solution Strategies in Multiple Constraint Design Optimization,"
AIAA/ASME/ASCE/AHS 22nd Structures, Structural Dynam. & Mat. Conf., Atlanta, GA, April 6-8, 1981.,
pp. 216-232.

Lewis, R. S., and R. T. Watson,
"Temperature Dependence of the Reaction $O(^3P) + OH(^2Pi) \rightarrow O_2 + H$,"
Journal of Physical Chemistry,
Vol. 84, No. 26, pp. 3495-3503, 1980.

Lindal, G. F., V. R. Eshleman (Stanford University), G. L. Tyler (Stanford University), T. A. Croft (SRI International), P. E. Doms, G. S. Levy, G. E. Wood, J. D. Anderson, D. N. Sweetnam, H. B. Hotz, R. J. Buckles, and D. P. Holmes,
"The Atmosphere of Jupiter: An Analysis of the Voyager Radio Occultation Measurements,"
Journal of Geophysical Research,
Vol. 86, No. A10, pp. 8721-8727, September 30, 1981.

Lorre, J. J., and A. R. Gillespie,
"Artifacts in Digital Images,"
SPIE: Applications of Digital Image Processing to Astronomy,
Vol. 264, pp. 123-135, 1980.

Mahoney, W. A., J. C. Ling, and A. S. Jacobson,
"HEAO 3 Measurements of the Atmospheric Position Annihilation Line,"
Journal of Geophysical Research,
Vol. 86, No. A13, pp. 11098-11104, December 1981.

Mahoney, W. A., J. C. Ling, and A. S. Jacobson,
"Radiation Damage of the HEAO C-1 Germanium Detectors,"
Nuclear Instruments and Methods,
Vol. 185, pp. 449-458, 1981.

Mahoney, W. A., R. M. Tapphorn (Ball Aerospace Systems Division), J. C. Ling, and A. S. Jacobson,
"The HEAO 3 Gamma-Ray Spectrometer,"

Nuclear Instruments and Methods,
Vol. 178, pp. 363-381, 1980.

Majumdar, A. K., R. T. Menzies, and S. L. Jain,
"Stratospheric Trace Constituent Profile Retrievals Using Laser
Heterodyne Radiometer IR Limb Sensing Spectra,"
Applied Optics,
Vol. 20, No. 3, pp. 505-513, February 1, 1981.

Manvi, R., T. Fujita, B. C. Gajanan, and C. J. Marcus,
"Thermal Buffering of Receivers for Parabolic Dish Solar
Thermal Power Plants,"
Journal of Energy,
Vol. 5, No. 6, pp. 381-386, November 1981.

Maserjian, J., and N. Zamani,
"Behavior of the Si/SiO₂ Interface Observed by
Fowler-Nordheim Tunneling,"
Journal of Applied Physics,
Vol. 53, No. 1, pp. 559-567, January 1982.

Mason, P., D. Collins, P. Cowgill, D. Elleman, D. Petrac,
M. Saffren, and T. Wang,
"Superfluid Helium Experiment for Spacelab 2,"
Advances in Cryogenic Engineering,
Vol. 25, pp. 801-809, 1980.

Matson, D. L., G. A. Ransford, and T. V. Johnson,
"Heat Flow From Io (J1),"
Journal of Geophysical Research,
Vol. 86, No. B3, pp. 1664-1672, March 10, 1981.

McDermid, I. S., and J. B. Laudenslager,
"Perturbations in the B³Pi(O⁺) State of ClF: A New
Low-Lying Electronic State,"
Chemical Physics Letters,
Vol. 79, No. 2, pp. 370-374, April 15, 1981.

McDermid, I. S., and J. B. Laudenslager,
"Radiative Lifetimes and Quenching Rate Coefficients for
Directly Excited Rotational Levels of OH (A² σ^+ , $v' = 0$),"
Journal of Chemical Physics,
Vol. 76, No. 4, pp. 1824-1831, February 15, 1982.

McEliece, R. J.,
"Practical Codes for Photon Communication,"
IEEE Transactions on Information Theory,
Vol. IT-27, pp. 393-398, July 1981.

McLaughlin, W. I.,
"The Natural History of Halley's Comet,"
Journal of the British Interplanetary Society,
Vol. 34, pp. 267-280, 1981.

Menzies, R. T., C. W. Rutledge, R. A. Zantesson, and
D. L. Spears,
"Balloon-Borne Laser Heterodyne Radiometer for

Measurements of Stratospheric Trace Species,"
Applied Optics,
Vol. 20, No. 4, pp. 536-544, February 15, 1981.

Miller, E. L., A. Shumka, and S. S. Chern,
"The Solar Cell Laser Scanner,"
*Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee,
Florida, May 12-15, 1981.*,
pp. 1126-1133.

Miller, R. L.,
"A Characterization of Weight-Preserving Automorphisms of
Group Algebras,"
Journal of Information and Optimization Sciences,
Vol. 2, No. 1, pp. 19-21, 1981.

Mitchell, J. L., R. F. Beebe (New Mexico State University),
A. P. Ingersoll, and G. W. Garneau,
"Flow Fields Within Jupiter's Great Red Spot and
White Oval BC,"
Journal of Geophysical Research,
Vol. 86, No. A10, pp. 8751-8757, September 30, 1981.

Mohan, S. N., and M. P. Ananda,
"SAR: An Instrument for Planetary Geodesy and Navigation,"
Journal of the Astronautical Sciences,
Vol. XXIX, No. 2, pp. 127-151, April 1981.

Mohan, S. N., G. J. Bierman (Factorized Estimation
Applications), N. E. Hamata, and R. L. Stavert,
"Seasat Orbit Refinement for Altimetry Application,"
Journal of Astronautical Sciences,
Vol. XXVIII, No. 4, pp. 405-417, October 1980.

Momjian, E. J.,
"Nonlegal Databases as Litigation Support Tools,"
Practical Lawyer,
Vol. 26, No. 8, pp. 63-68, December 1, 1980.

Mondt, J. F., and G. Stapfer,
"Nuclear Power Source for Electric Propulsion,"
Progress in Astronautics and Aeronautics,
Vol. 79, pp. 717-729, 1981.

Montgomery, D. R.,
"Commercial Applications of Satellite Oceanography,"
Oceanus,
Vol. 24, No. 3, pp. 56-65, 1981.

Montgomery, D. R.,
"Oceanic Satellite Data Distribution System,"
Marine Technology Society Journal,
Vol. 14, No. 6, pp. 28-30, 1980.

Montgomery, D. R.,
"Seasat Data Applications by Commercial Users,"
Marine Geodesy,
Vol. 4, No. 4, pp. 387-416, 1980.

Mosher, J., and J. J. Lorre,
"Determination of Planetary Photometric Functions,"
Proceedings of SPIE: Processing of Images and Data from Optical Sensors,
Vol. 292, pp. 116-126, August 25, 1981.

Moyer, T. D.,
"Transformation From Proper Time on Earth to Coordinate Time in Solar System Barycentric Space-Time Frame of Reference, Part 1,"
Celestial Mechanics,
Vol. 23, pp. 33-56, 1981.

Moyer, T. D.,
"Transformation From Proper Time on Earth to Coordinate Time in Solar System Barycentric Space-Time Frame of Reference, Part 2,"
Celestial Mechanics,
Vol. 23, pp. 57-60, 1981.

Nelson, R. M., D. L. Matson, F. P. Fanale, D. B. Nash, T. V. Johnson, and A. L. Lane,
"Io: Longitudinal Distribution of Sulfur Dioxide Frost,"
Science,
Vol. 210, pp. 784-796, November 14, 1980.

Neugebauer, M.,
"Observations of Solar-Wind Helium,"
Fundamentals of Cosmic Physics,
Vol. 7, pp. 131-199, 1981.

Neugebauer, M., D. R. Clay, B. E. Goldstein, and R. Goldstein,
"Energetic Ion Mass Spectrometer,"
Review of Scientific Instruments,
Vol. 53, No. 3, pp. 277-280, March 1982.

Newburn, Jr., R. L., J. F. Bell (University of Hawaii), and T. B. McCord (University of Hawaii),
"Interference-Filter Photometry of Periodic Comet Ashbrook-Jackson,"
Astronomical Journal,
Vol. 86, No. 3, pp. 469-475, March 1981.

Ng, E. W.,
"Simplification of Multiple Fourier Series: An Example of Algorithmic Approach,"
Computers and Mathematics with Applications,
Vol. 7, No. 5, pp. 355-359, 1981.

Niell, A. E., T. G. Lockhart, and R. A. Preston,
"Periodic Changes in the Compact Radio Structure of SS 433,"
Astrophysical Journal,
Vol. 250, No. 1, pp. 248-253, November 1, 1981.

Njoku, E. G., and R. Hofer,
Seasat SMMR Observations of Ocean Surface Temperature and Wind Speed in the North Pacific,

pp. 673-681, Plenum Publishing Corporation,
New York, N.Y., 1981.

Noller, E. W., and J. L. Bauer,
"Design of a High Precision Microwave Reflector,"
12th National SAMPE Tech. Conf., Seattle, Washington, October 7-9, 1980,
pp. 989-1010.

Null, G. W., E. L. Lau, E. D. Biller, and J. D. Anderson,
"Saturn Gravity Results Obtained From Pioneer 11 Tracking Data and Earth-Based Saturn Satellite Data,"
Astronomical Journal,
Vol. 86, No. 3, pp. 456-468, March 1981.

Pacala, T. J., I. S. McDermid, and J. B. Laudenslager,
"A Wavelength Scannable XeCL Oscillator - Ring Amplifier Laser System,"
Applied Physics Letters,
Vol. 40, No. 1, pp. 1-3, January 1982.

Paluzzi, P. R., R. D. Toaz, D. G. Roberts (Institute of Oceanography), R. C. Searle (Institute of Oceanography), and M. L. Somers (Institute of Oceanography),
"Computer Rectification and Mosaicking of Side-Looking Sonar Images,"
13th Annual Offshore Tech. Conf., Houston, Texas, May 4-7, 1981,
pp. 103-114.

Pang, K. D., J. M. Ajello, F. S. Chun (University of California, San Francisco), Z. Nansheng (Beijing Planetarium), and L. Minji (Beijing Glass Institute),
"Organic and Inorganic Interpretations of the Martian UV-IR Reflectance Spectrum,"
Nature,
Vol. 295, No. 5844, pp. 43-46, January 7, 1982.

Parthasarathy, S. P., and A. Vijayaraghaven,
"Transmission of High-Frequency Sound Waves Through a Slug Flow Jet,"
AIAA Journal,
Vol. 19, No. 6, pp. 709-716, June 1981.

Peng, S. T., and R. F. Landel,
Extensional Flow of Dilute Polymer Solution,
pp. 385-391, Plenum Publishing Corporation,
New York, N.Y., 1980.

Peng, S. T., and R. F. Landel,
"Rheological Behavior of Progressively Shear-Thickening Solutions,"
Journal of Applied Physics,
Vol. 52, No. 10, pp. 5988-5993, October 1981.

Phillips, L. F.,
"Absolute Absorption Cross Sections for SO Between 190 and

- 235 nm,"
Journal of Physical Chemistry,
Vol. 85, pp. 3994-4000, 1981.
- Pickett, H. M.,**
"Effects of Velocity Averaging on the Shapes of Absorption Lines,"
Journal of Chemical Physics,
Vol. 73, No. 12, pp. 6090-6094, December 15, 1980.
- Pickett, H. M., D. E. Brinza, and E. A. Cohen,**
"Pressure Broadening of ClO by Nitrogen,"
Journal of Geophysical Research,
Vol. 86, No. C8, pp. 7279-7282, August 20, 1981.
- Pickett, H. M., D. E. Brinza, and E. A. Cohen,**
"Pressure Broadening of Oxygen and Its Implications For Cosmic Background Measurements,"
Astrophysical Journal,
Vol. 248, pp. L49-L51, August 15, 1981.
- Pickett, H. M., E. A. Cohen, M. M. Schaefer, and D. E. Brinza,**
"The Submillimeter Wavelength Spectrum of Methanol,"
Journal of Molecular Spectroscopy,
Vol. 89, pp. 542-547, 1981.
- Pieri, D. C.,**
"Martian Valleys: Morphology, Distribution, Age, and Origin,"
Science,
Vol. 210, pp. 895-897, November 21, 1980.
- Piety, R. R., E. L. Miller, K. C. Evans, and W. J. Silva,**
Investigation of Gate Shorts in CMOS Devices by Electron Beam Induced Current and Internal SEM Probes,
pp. 113-118, San Francisco Press, Inc., San Francisco, Calif., 1981.
- Plescia, J. B., and R. S. Saunders,**
"Estimation of the Thickness of the Tharsis Lava Flows and Implications for the Nature of the Topography of the Tharsis Plateau,"
Proc. 11th Lunar and Planetary Science Conf., 1980.,
pp. 2423-2436.
- Pleskot, L. K., and E. D. Miner,**
"Time Variability of Martian Bolometric Albedo,"
Icarus,
Vol. 45, pp. 179-201, 1981.
- Prasad, S. S.,**
"Excited Ozone is a Possible Source of Atmospheric N₂O,"
Nature
Vol. 289, No. 5796, pp. 386-388, January 29, 1981.
- Price, H. W.,**
"Solar Sail Engineering Development Mission,"
AIAA Student Journal,
pp. 14-19, Summer 1981.
- Rahmat-Samli, Y., and V. Galindo-Israel,**
"Scan Performance of Dual Offset Reflector Antennas for Satellite Communications,"
Radio Science,
Vol. 16, No. 6, pp. 1093-1099, November 1981.
- Rahmat-Samli, Y., K. Woo, S. W. Lee, and P. Cramer, Jr.,**
"Realizable Feed-Element for a Multibeam Reflector Antenna Analysis,"
IEEE Transactions on Antennas and Propagation,
Vol. AP-29, No. 6, pp. 961-963, November 1981.
- Ransford, G. A., and W. M. Kaula,**
"Heating of the Moon by Heterogeneous Accretion,"
Journal of Geophysical Research,
Vol. 85, No. B11, pp. 6615-6627, November 10, 1980.
- Ray, G. W., and R. T. Watson,**
"Kinetics Study of the Reactions of NO with FO, ClO, BrO and IO at 298 K,"
Journal of Physical Chemistry,
Vol. 85, pp. 2955-2960, 1981.
- Ray, G. W., and R. T. Watson,**
"Kinetics of the Reaction $\text{NO} + \text{O}_3 \rightarrow \text{NO}_2 + \text{O}_2$ From 212 to 422 K,"
Journal of Physical Chemistry,
Vol. 85, pp. 1673-1676, 1981.
- Resch, G. M.,**
Water Vapor—The Wet Blanket of Microwave Interferometry,
pp. 265-282, Academic Press, Inc., 1980.
- Rhodes, Jr., E. J., and E. J. Smith,**
"Multi-Spacecraft Observations of Heliographic Latitude-Longitude Structure in the Solar Wind,"
Journal of Geophysical Research,
Vol. 86, No. A11, pp. 8877-8892, October 1, 1981.
- Richter, R.,**
"Basic Investigation into the Production of Oxygen in a Solid Electrolyte Process,"
AIAA 16th Thermophysics Conference, Palo Alto, Calif., June 23-25, 1981.,
pp. 1-13.
- Riegler, G. R., J. C. Ling, W. A. Mahoney, W. A. Wheaton, J. B. Willett, A. S. Jacobson, and T. A. Prince,**
"Variable Positron Annihilation Radiation From the Galactic Center Region,"

Astrophysical Journal,
Vol. 248, pp. L13-L16, August 15, 1981.

Roberts, Jr., P. H., and J. L. Wright,
"The Saturn Orbiter Dual Probe Mission Concept,"
Journal of the Astronautical Sciences,
Vol. XXVIII, No. 2, pp. 123-138, April 1980.

Rodemich, E.,
"The Groups of Order 128,"
Journal of Algebra,
Vol. 67, No. 1, pp. 129-142, November 1980.

Rudolph, L. K., and R. M. Jones,
"Pulsed Plasma Thruster Contamination Studies,"
Progress in Astronautics and Aeronautics,
Vol. 79, pp. 662-671, 1981.

Rudolph, L. K., and E. V. Pawlik,
"The MPD Thruster Development Program,"
Progress in Astronautics and Aeronautics,
Vol. 79, pp. 518-526, 1981.

Salama, M., S. Utku (Duke University), R. Melosh (Duke University), and M. Islam (Duke University),
"On Nonlinear Finite Element Analysis in Single-, Multi-, and Parallel-Processors,"
Computers & Structures,
Vol. 15, No. 1, pp. 39-47, 1982.

Salomon, P. M.,
"Charge-Coupled Device (CCD) Trackers for High-Accuracy Guidance Applications,"
Optical Engineering,
Vol. 20, No. 1, pp. 135-142, January 1981.

Salomon, P. M., T. A. Glavich, K. R. Lorell (NASA Ames Research Center), and W. C. Goss,
"Development of a Shuttle Infrared Telescope Facility (SIRTF) Fine Guidance Sensor,"
Proceedings of SPIE: Shuttle Pointing of Electro-Optical Experiments,
Vol. 265, pp. 203-218, 1981.

Sander, S. P., and R. T. Watson,
"A Kinetics Study of the Reaction of SO_2 with CH_3O_2 ,"
Chemical Physics Letters,
Vol. 77, No. 3, pp. 473-475, February 1, 1981.

Sander, S. P., and R. T. Watson,
"Temperature Dependence of the Self-Reaction of CH_3O_2 Radicals,"
Journal of Physical Chemistry,
Vol. 85, pp. 2960-2964, 1981.

Sander, S. P., R. T. Watson, S. Wagner, and R. S. Lewis,
"Temperature-Dependent Rate Constants for the Reaction of Ground-State Chlorine with Simple Alkanes,"

Journal of Physical Chemistry,
Vol. 84, pp. 2009-2015, 1980.

Sarbolouki, M. N.,
"A General Diagram for Estimation Pore Size of Ultrafiltration and Reverse Osmosis Membranes,"
Separation Science and Technology,
Vol. 17, No. 2, pp. 381-386, 1982.

Schaechter, D. B.,
"Estimation of Distributed Parameter Systems,"
Journal of Guidance and Control,
Vol. 5, No. 1, pp. 22-26, January 1982.

Schaechter, D. B.,
"Hardware Demonstration of Flexible Beam Control,"
Journal of Guidance and Control,
Vol. 5, No. 1, pp. 48-53, January 1982.

Schaechter, D. B.,
"Optimal Local Control of Flexible Structures,"
Journal of Guidance and Control,
Vol. 4, No. 1, pp. 22-26, January 1981.

Schildge, J. P., A. B. Kahle, R. E. Alley, and A. R. Gillespie,
"Use of Thermal-Inertia Properties for Material Identification,"
SPIE: Image Processing for Missile Guidance,
Vol. 238, pp. 350-357, 1980.

Schmit, D. D., J. W. Anderson, and F. C. Vote,
"Long-Life Bipropellant System Demonstration, Viking Orbiter Propulsion System,"
Journal of Spacecraft and Rockets,
Vol. 18, No. 4, pp. 327-332, July 1981.

Shemdin, O. H.,
"Prediction of Dominant Wave Properties Ahead of Hurricanes,"
Proc. 17th Inter. Coastal Engineering Conf., ASCE, Sydney, Australia, March 23-28, 1980.,
pp. 600-609.

Shemdin, O. H.,
"The West Coast Experiment: An Overview,"
EOS,
Vol. 611, pp. 649-651, 1980.

Sherman, R. D.,
"Current QSO Statistics: Implications for the Intergalactic Medium,"
Astrophysical Journal,
Vol. 246, pp. 365-368, June 1, 1981.

Sherman, R. D.,
"QSO Evolution and the Intergalactic Medium,"

Astrophysical Journal,
Vol. 240, pp. 737-743, September 15, 1980.

Shimada, K.,
"Radiatively Coupled Thermionic Power System Concept,"
Journal of Energy,
Vol. 5, No. 1, pp. 60-61, January 1981.

Shlichta, P. J.,
"Absorption-Interferometric Technique for Mapping
Temperature and Concentration Profiles During Crystal Growth
from Solution,"
*Proceedings of SPIE: 1980 European Conference on Optical
Systems and Applications (Utrecht)*,
Vol. 236, pp. 95-101, 1980.

**Shumate, M. S., R. T. Menzies, W. B. Grant, and
D. S. McDougal,**
"Laser Absorption Spectrometer: Remote Measurement of
Tropospheric Ozone,"
Applied Optics,
Vol. 20, No. 4, pp. 545-553, February 15, 1981.

Shumka, A., and S. G. Sollock,
"A Comprehensive Analysis of the Performance
Characteristics of the Mount Laguna Solar Photovoltaic
Installation,"
*Proc. 15th IEEE Photovoltaic Specialists Conf., Kissimmee,
Florida, May 12-15, 1981.*,
pp. 1237-1244.

Sjogren, W. L., and R. N. Wimberly,
"Mars: Hellas Planitia Gravity Analysis,"
Icarus,
Vol. 45, pp. 331-338, 1981.

**Sjogren, W. L., R. J. Phillips, P. W. Birkeland, and
R. N. Wimberly,**
"Gravity Anomalies on Venus,"
Journal of Geophysical Research,
Vol. 85, No. A13, pp. 8295-8302, December 30, 1980.

**Smith, E. J., B. T. Tsurutani, B. U. Sonnerup (Dartmouth
College), and J. H. Wolfe (NASA Ames Research Center),**
"Structure of Jupiter's Magnetopause: Pioneer 10 and 11
Observations,"
Journal of Geophysical Research,
Vol. 86, No. A5, pp. 3321-3334, May 1, 1981.

**Smith, E. J., L. Davis, Jr., D. E. Jones (Brigham Young
University), P. J. Coleman, Jr. (University of California,
Los Angeles), D. S. Colburn (NASA Ames Research
Center), P. Dyal (NASA Ames Research Center), and
C. P. Sonett (University of Arizona),**
"Saturn's Magnetosphere and Its Interaction With the Solar
Wind,"
Journal of Geophysical Research,
Vol. 85, No. A11, pp. 5655-5674, November 1, 1980.

Smith, J. L.,
"Photovoltaics,"
Science,
Vol. 212, pp. 1472-1478, June 26, 1981.

Smoak, R. H., and A. A. Kudirka,
"Use of Ceramics in Point-Focus Solar Receivers,"
*AIAA 2nd Terrestrial Energy Sys. Conf., Colorado Springs,
Colo., December 1-3, 1981.*
pp. 1-9.

Snyder, C. W., and N. Evans,
"The Final Phases of the Viking Mission to Mars,"
Icarus,
Vol. 45, pp. 2-24, 1981.

**Somoano, R. B., R. J. Deck (Tulane University),
A. M. Hermann (Tulane University), and T. Datta
(University of North Carolina),**
"Nordheim-Gorter Like Behavior and One Carrier Conduction
in a Quasi-One-Dimensional System,"
Solid State Communications,
Vol. 35, pp. 883-885, 1980.

Srivastava, S. K., and O. J. Orient,
"Cross Section for LY- α Emission by Electron Impact on
Methane,"
Chemical Physics,
Vol. 54, No. 2, pp. 183-188, January 1981.

Srivastava, S. K., and L. Vuskovic (Institute of Physics),
"Electron Scattering by Highly Polar Molecules: III. CsCl,"
Journal of Physics B: Atomic Molecular Physics,
Vol. 14, pp. 2677-2685, 1981.

Stagner, J. R., and M. A. Girard,
"The Infrared Astronomical Satellite (IRAS) Scientific Data
Analysis System (SDAS) Sky Flux Subsystem,"
SPIE: Applications of Digital Image Processing to Astronomy,
Vol. 264, pp. 95-98, 1980.

Standish, Jr., M., and H. Fichhorn,
"Remarks on Nonstandard Least-Squares Problems,"
Astronomical Journal,
Vol. 86, No. 1, pp. 156-159, January 1981.

Stern, R. A., P. C. Agrawal, and G. R. Riegler,
"The Very Soft X-ray Transient H1853+60,"
Nature,
Vol. 290, No. 5807, pp. 573-574, April 16, 1981.

**Stern, R. A., J. H. Underwood, M. C. Zolcinski (Stanford
University), and S. K. Antiochos (Stanford University),**
Results From the Central Hyades Survey,
pp. 137-144, D. Reidel Publishing Company, 1981.

- Stern, R. A., M. C. Zolcinski (Stanford University), S. K. Antlochos (Stanford University), and J. H. Underwood,
 "Stellar Coronae in the Hyades: A Soft X-Ray Survey with the Einstein Observatory,"
Astrophysical Journal,
 Vol. 249, pp. 647-661, October 15, 1981.
- Stern, R. A., J. A. Nousek, J. J. Nugent, P. C. Agrawal, G. R. Riegler, A. Rosenthal, S. H. Pravdo, and G. P. Garmire (Pennsylvania State University),
 "X-Ray and Optical Observations of HD 155638: A Remarkable Active Cool Star,"
Astrophysical Journal,
 Vol. 251, pp. L105-L108, December 15, 1981.
- Stirn, R. J.,
 "Dependence of Barrier Height on Energy Gap in Au n-Type GaAs_{1-x}P_x Schottky Diodes,"
Applied Physics Communications,
 Vol. 1, No. 1, pp. 43-53, 1981.
- Stone, E. C.,
 "The Voyager Mission Through the Jupiter Encounters,"
Journal of Geophysical Research,
 Vol. 86, No. A10, pp. 8123-8124, September 30, 1981.
- Strand, L. D., and N. S. Cohen,
 "Effect of the HMX on the Combustion Response Function,"
Journal of Spacecraft and Rockets,
 Vol. 17, No. 6, pp. 566-568, November 1980.
- Strand, L. D., K. R. Magiawala, and R. P. McNamara,
 "Microwave Measurement of the Solid-Propellant Pressure-Coupled Response Function,"
Journal of Spacecraft and Rockets,
 Vol. 17, No. 6, pp. 483-488, November 1980.
- Strand, L. D., J. M. Bowyer, G. Varsi, E. G. Laue, and R. Gauldin,
 "Characterization of Particulates in the Exhaust Plume of Large Solid-Propellant Rockets,"
Journal of Spacecraft and Rockets,
 Vol. 18, No. 4, pp. 297-305, July 1981.
- Synnott, S. P.,
 "1979J2: The Discovery of a Previously Unknown Jovian Satellite,"
Science,
 Vol. 210, pp. 786-788, November 14, 1980.
- Synnott, S. P.,
 "1979J3: Discovery of a Previously Unknown Satellite of Jupiter,"
Science,
 Vol. 212, p. 1392, June 19, 1981.
- Synnott, S. P., C. F. Peters, B. A. Smith (University of Arizona), and L. A. Morabito,
 "Orbits of the Small Satellites of Saturn,"
Science,
 Vol. 212, pp. 191-192, April 10, 1981.
- Tang, C. C.,
 "Correct Generalized Solar Radiation Pressure Force on a Circular Cylinder in an Arbitrary Orientation,"
Journal of the Astronautical Sciences,
 Vol. XXIX, No. 2, pp. 171-178, April 1981.
- Taylor, F. W., R. Beer, M. T. Chahine, D. J. Diner, L. S. Elson, R. D. Haskins, D. J. McCleese, J. V. Martonchik, P. E. Reichley, S. P. Bradley (Oxford University), J. Delderfield (Oxford University), J. T. Schofield (Oxford University), C. B. Farmer (California Institute of Technology), L. Frolovaux (California Institute of Technology), J. Leung (California Institute of Technology), M. T. Coffey (National Center for Atmospheric Research), and J. C. Gille (National Center for Atmospheric Research),
 "Structure and Meteorology of the Middle Atmosphere of Venus: Infrared Remote Sensing From the Pioneer Orbiter,"
Journal of Geophysical Research,
 Vol. 85, No. A13, pp. 7963-8006, December 30, 1980.
- Terrile, R. J., and T. Owen (State University of New York),
 "Colors on Jupiter,"
Journal of Geophysical Research,
 Vol. 86, No. A10, pp. 8797-8814, September 30, 1981.
- Thomas, B. T., and E. J. Smith,
 "The Parker Spiral Configuration of the Interplanetary Magnetic Field Between 1 and 8.5 AU,"
Journal of Geophysical Research,
 Vol. 85, No. A12, pp. 6861-6867, December 1, 1980.
- Thomas, B. T., and E. J. Smith,
 "The Structure and Dynamics of the Heliospheric Current Sheet,"
Journal of Geophysical Research,
 Vol. 86, No. A13, pp. 11105-11110, December 1, 1981.
- Thorpe, T. E.,
 "Mars Atmospheric Opacity Effects Observed in the Northern Hemisphere by Viking Orbiter Imaging,"
Journal of Geophysical Research,
 Vol. 86, No. A13, pp. 11419-11429, December 1, 1981.
- Tsurutani, B. T., and P. Rodriguez (NASA Goddard Space Flight Center),
 "Upstream Particles and Waves,"
EOS,
 Vol. 61, pp. 569-570, 1980.

- Tsurutani, B. T., and P. Rodriguez (NASA Goddard Space Flight Center),**
 "Upstream Wave and Particles: An Overview of ISEE Results,"
Journal of Geophysical Research,
 Vol. 86, No. A6, pp. 4317-4324, June 1, 1981.
- Tsurutani, B. T., M. E. Pesses (University of Iowa), J. A. Van Allen (University of Iowa), and E. J. Smith,**
 "Bursts of MeV Jovian Protons Observed in Interplanetary Space,"
Journal of Geophysical Research,
 Vol. 86, No. A4, pp. 2487-2489, April 1, 1981.
- Tsurutani, B. T., E. J. Smith, S. P. Duggal (University of Delaware), M. A. Pomerantz (University of Delaware), and C. H. Tsao (University of Delaware),**
 "Relativistic Cosmic Rays and Corotating Interaction Regions,"
Journal of Geophysical Research,
 Vol. 86, No. A9, pp. 7473-7479, September 1, 1981.
- Tsurutani, B. T., E. J. Smith, R. M. Thorne (University of California, Los Angeles), R. R. Anderson (University of Iowa), D. A. Gurnett (University of Iowa), G. K. Parks (University of Washington), C. S. Lin (University of Maryland), and C. T. Russell (University of California, Los Angeles),**
 "Wave-Particle Interactions at the Magnetopause: Contributions to the Dayside Aurora,"
Geophysical Research Letters,
 Vol. 8, No. 2, pp. 183-186, February 1981.
- Tubbs, E. F.,**
 "Alignment of a Two-Beam Interferometer,"
Proceedings of SPIE: Optical Alignments,
 Vol. 251, pp. 123-127, July 29, 1980.
- Turegano, J. A., and M. J. Klein,**
 "Precision Flux Density Measurements of the Giant Planets at 8420 MHz,"
Astronomy and Astrophysics,
 Vol. 94, pp. 91-94, 1981.
- Underwood, J. W., and T. W. Barbee, Jr. (Stanford University),**
 "Layered Synthetic Microstructures as Bragg Diffractors for X-rays and Extreme Ultraviolet: Theory and Predicted Performance,"
Applied Optics,
 Vol. 28, No. 17, pp. 3027-3034, September 1, 1981.
- Vasquez, R. P., and F. J. Grunthaner,**
 "Intensity Analysis of XPS Spectra to Determine Oxide Uniformity: Application to SiO₂/Si Interface,"
Surface Science,
 Vol. 99, No. 3, pp. 681-688, October 1980.
- Vasquez, R. P., and F. J. Grunthaner,**
 "Chemical Composition of the SiO₂/InSb Interface as Determined by X-Ray Photoelectron Spectroscopy,"
Journal of Applied Physics,
 Vol. 52, No. 5, pp. 3509-3514, May 1981.
- Vasquez, R. P., and F. J. Grunthaner,**
 "XPS Study of Interface Formation of CVD SiO₂ on InSb,"
Journal of Vacuum Science Technology,
 Vol. 19, No. 3, pp. 431-436, September 1981.
- Vasquez, R. P., F. J. Grunthaner, J. D. Klein, and J. J. Barton,**
 "Application of Maximum-Entropy Spectral Estimation to Deconvolution of XPS Data,"
Journal of Electron Spectroscopy and Related Phenomena,
 Vol. 23, pp. 63-81, 1981.
- Veeder, G. J., and M. S. Hanner,**
 "Infrared Photometry of Comets Bowell and P/Stephan-Oterma,"
Icarus,
 Vol. 47, pp. 381-387, 1981.
- Veeder, G. J., E. F. Tedesco (University of Arizona), D. J. Tholen (University of Arizona), A. Tokunaga (University of Hawaii), C. Kowal, K. Matthews, G. Neugebauer, and B. T. Solfer,** "The Diameter and Albedo of 1943 Anteros,"
Icarus,
 Vol. 46, pp. 281-284, 1981.
- Von Roos, O.,**
 "Analysis of the Photo Voltage Decay (PVD) Method for Measuring Minority Carrier Lifetimes in P-N Junction Solar Cells,"
Journal of Applied Physics,
 Vol. 52, No. 9, pp. 5833-5837, September 1981.
- Von Roos, O.,**
 "The Generation of Electron-Hole Pairs in Very Thin Solar Cells Possessing an Optical Back-Surface Reflector,"
Journal of Applied Physics,
 Vol. 51, No. 12, pp. 6426-6428, December 1980.
- Wall, S. D.,**
 "Analysis of Condensates Formed at the Viking 2 Lander Site: The First Winter,"
Icarus,
 Vol. 47, pp. 173-183, 1981.
- Wang, T. G., and F. H. Busse (University of California, Los Angeles),**
 "Torque Generated by Orthogonal Acoustic Waves — Theory,"
Journal of Acoustical Society of America,
 Vol. 69, No. 6, pp. 1634-1638, June 1981.

Ward, W. R.,
"On the Radial Structure of Saturn's Rings,"
Geophysical Research Letters,
Vol. 8, No. 6, pp. 641-643, June 1981.

Ward, W. R.,
"Orbital Inclination of Iapetus and the Rotation of the Laplacian Plane,"
Icarus,
Vol. 46, pp. 97-107, 1981.

Ward, W. R.,
"Solar Nebula Dispersal and the Stability of the Planetary System: I. Scanning Secular Resonance Theory,"
Icarus,
Vol. 47, pp. 234-264, 1981.

Waters, J. W., H. M. Pickett, R. F. Jarnot, and J. C. Hardy,
"Chlorine Monoxide Radical, Ozone, and Hydrogen Peroxide: Stratospheric Measurements by Microwave Limb Sounding,"
Science,
Vol. 214, pp. 61-64, October 2, 1981.

Weinberg, M. C.,
"Surface Tension Effects in Gas Bubble Dissolution and Growth,"
Chemical Engineering Science,
Vol. 36, pp. 137-141, 1981.

Weinberg, M. C., and R. S. Subramanian,
"Dissolution of Multicomponent Bubbles,"
American Ceramics Society Bulletin,
Vol. 63, No. 9-10, pp. 527-531, September 1980.

Weissman, P. R.,
"Stellar Perturbations of the Cometary Cloud,"
Nature,
Vol. 288, No. 5788, pp. 242-243, November 20, 1980.

Weissman, P. R., and H. H. Kieffer (U.S. Geological Survey),
"Thermal Modeling of Cometary Nuclei,"
Icarus,
Vol. 47, pp. 302-311, 1981.

Wellman, J. B.,
"Multispectral Mapper: Imaging Spectroscopy as Applied to the Mapping of Earth Resources,"
SPIE: Imaging Spectroscopy,
Vol. 268, pp. 64-73, 1981.

Wen, L., P. Poon, W. Carley, and L. Huang (Civil Engineering Laboratory, Department of Navy),
"Comparative Study of Solar Optics for Paraboloidal Concentrators,"
Journal of Solar Energy Engineering,
Vol. 102, pp. 305-315, November 1980.

White, B. S., and K. R. Castleman,
"Estimating Cell Populations,"
Pattern Recognition,
Vol. 13, No. 5, pp. 365-370, 1981.

Williams, J. G., and J. Faulkner,
"The Positions of Secular Resonance Surfaces,"
Icarus,
Vol. 46, pp. 390-399, 1981.

Willson, R. C.,
"Active Cavity Radiometer Type V,"
Applied Optics,
Vol. 19, No. 19, pp. 3256-3257, October 1, 1980.

Willson, R. C.,
"Solar Total Irradiance Observations by Active Cavity Radiometers,"
Solar Physics,
Vol. 74, pp. 217-229, 1981.

Willson, R. C., and H. S. Hudson (University of California, San Diego),
"Variations of Solar Irradiance,"
Astrophysical Journal,
Vol. 244, pp. L185-L189, March 15, 1981.

Willson, R. C., S. Gulkis, M. Janssen, G. A. Chapman (California State University, Northridge), and H. S. Hudson (University of California, San Diego),
"Observations of Solar Irradiance Variability,"
Science,
Vol. 211, pp. 700-702, February 13, 1981.

Wilson, W. J., and P. R. Schwartz (Naval Research Laboratory),
"Diurnal Variations of Mesospheric Ozone Using Millimeter-Wave Measurements,"
Journal of Geophysical Research,
Vol. 86, No. C8, pp. 7385-7388, August 20, 1981.

Wilson, W. J., H. R. Dickel (University of Illinois), and J. R. Dickel (University of Illinois),
"The Molecular Cloud Associated With NGC 7538,"
Astrophysical Journal,
Vol. 250, pp. L43-L47, November 1, 1981.

Wong, E. C., and W. G. Breckenridge,
"Inertial Attitude Determination for a Dual-Spin Planetary Spacecraft,"
AIAA Guidance and Control Conf., Albuquerque, New Mexico, August 19-21, 1981,
pp. 458-469.

Woo, R., and A. Ishimaru (University of Washington),
"Eddy Diffusion Coefficient for the Atmosphere of Venus

From Radio Scintillation Measurements,"
Nature,
Vol. 289, No. 5796, pp. 383-384, January 29, 1981.

Woo, R., and J. W. Armstrong,
"Measurements of a Solar Flare-Generated Shock Wave at 13.1
R₀,"
Nature,
Vol. 292, No. 5824, pp. 608-610, August 13, 1981.

Woo, R., J. W. Armstrong, and A. Ishimaru (University of
Washington),
"Radio Occultation Measurements of Turbulence in the Venus
Atmosphere by Pioneer Venus,"
Journal of Geophysical Research,
Vol. 85, No. A13, pp. 8031-8038, December 30, 1980.

Wood, L. J.,
"Comment on Stability of a Precision Attitude Determination
Scheme,"
Journal of Guidance and Control,
Vol. 4, No. 5, pp. 573-574, September 1981.

Wood, L. J.,
"Navigation Accuracy Analysis for an Ion Drive Flyby of
Comet Halley,"
Journal of Guidance and Control,
Vol. 4, No. 4, pp. 369-375, July 1981.

Wood, L. J., and A. C. Krinik,
"Navigation Accuracy Analysis for an Ion Drive Rendezvous
with Comet Tempel 2,"
Journal of Guidance and Control,
Vol. 4, No. 5, pp. 570-573, September 1981.

Yagi, G. M., P. L. Jepsen, G. W. Garneau, J. A. Mosher,
L. R. Doyle, J. J. Lorre, C. C. Avis, and E. P. Korsmo,
"Image Processing and Analysis of Saturn's Rings,"
*Proceedings of SPIE: Processing of Images and Data From
Optical Sensors*,
Vol. 292, pp. 110-115, August 25, 1981.

Yen, S. P., R. Somoano, S. K. Khanna, and A. Rembaum,
"Stability of Polyacetylene Films,"
Solid State Communications,
Vol. 36, pp. 339-343, 1980.

Yen, S. P., D. Shen, R. P. Vasquez, F. J. Grunthaner, and
R. B. Somoano,
"Chemical and Morphological Characteristics of Lithium
Electrode Surfaces,"

Journal of the Electrochemical Society,
Vol. 128, No. 7, pp. 1434-1438, July 1981.

Xeomans, D. K., M. Anada, W. L. Sjogren, and
L. J. Wood,
"Cometary Mass Determination,"
Journal of the Astronautical Sciences,
Vol. XXIX, No. 1, pp. 19-33, January 1980.

Yoder, C. F., and S. J. Peale (University of Colorado),
"The Tides of Io,"
Icarus,
Vol. 47, No. 1, pp. 1-35, July 1981.

Yoder, C. F., J. G. Williams, and M. E. Parke,
"Tidal Variations of Earth Rotation,"
Journal of Geophysical Research,
Vol. 86, No. 82, pp. 881-891, February 10, 1981.

Zak, M.,
"Multivalued Velocity Field Model of Turbulence,"
Mechanics Research Communications,
Vol. 8, No. 2, pp. 125-130, 1981.

Zak, M.,
"Surface Phenomena in Elasticity,"
Journal of Elasticity,
Vol. 11, No. 2, pp. 113-127, April 1981.

Zak, M. A.,
"Nonlinear In-Plane and Out-of-Plane Vibrations in
Solar Arrays,"
AIAA Journal,
Vol. 20, No. 3, pp. 430-433, March 1982.

Zohar, S.,
"Adaptive Arrays: A New Approach to the Steady-State
Analysis,"
IEEE Transactions on Antennas and Propagation,
Vol. AP-30, No. 1, pp. 128-138, January 1982.

Zoutendyk, J., and W. Akutagawa,
"Diffusive-Convective Physical Vapor Transport of PbTe
From a Te-Rich Solid Source,"
Journal of Crystal Growth,
Vol. 56, No. 2, pp. 245-253, January 2, 1982.

Zurek, R. W., and C. B. Leovy,
"Thermal Tides in the Dusty Martian Atmosphere:
A Verification of Theory,"
Science,
Vol. 213, pp. 437-439, July 24, 1981.